# SANDOW'S MAGAZINE

2d. OF PHYSICAL CULTURE. 2d.

*April 12th, 1906.*

THE EDITOR (EUGEN SANDOW).

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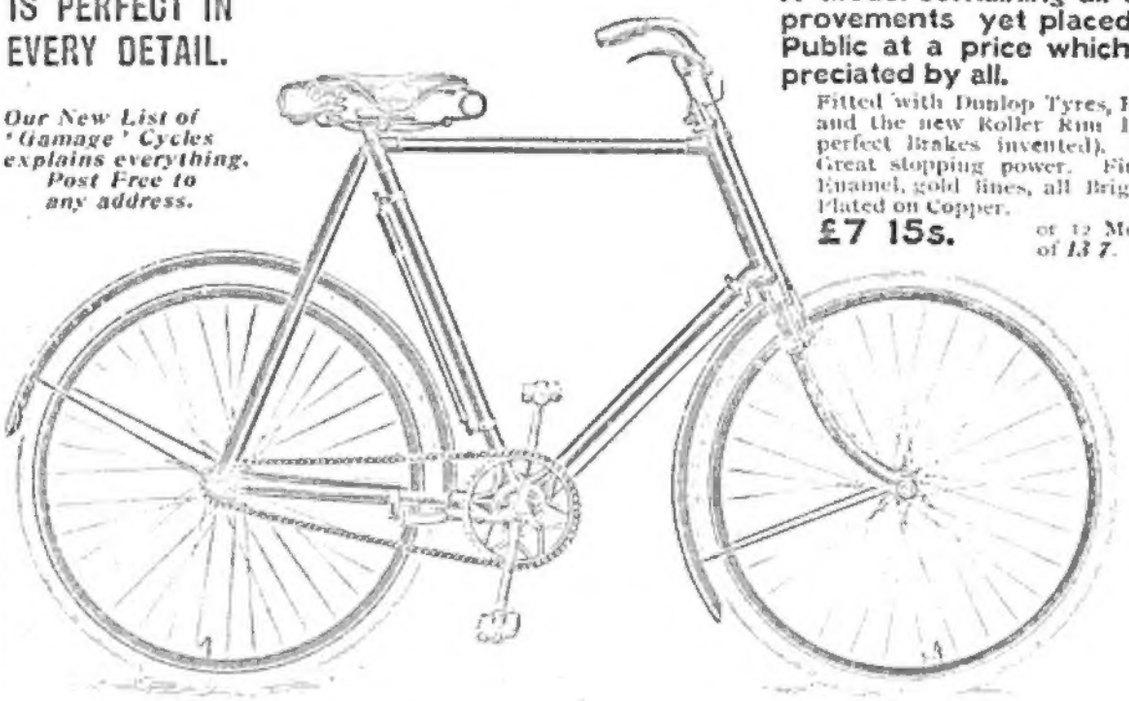

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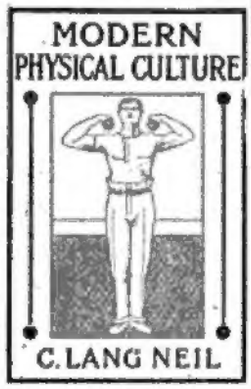


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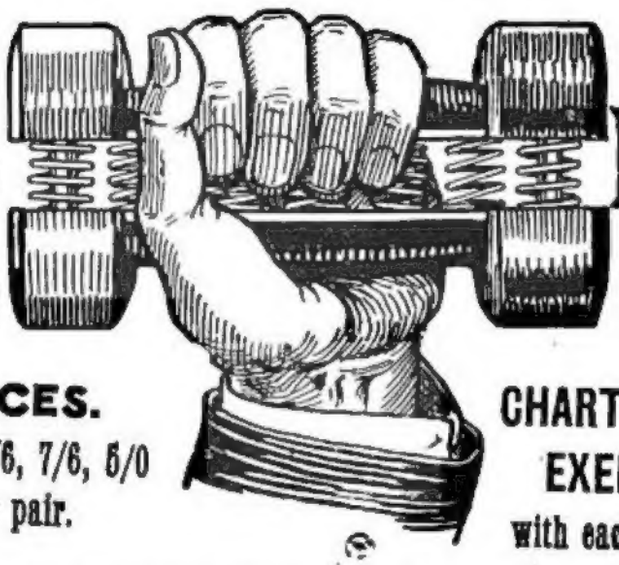

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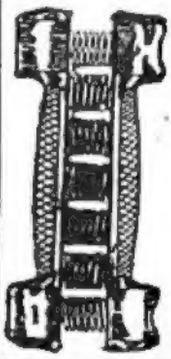

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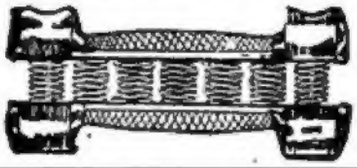

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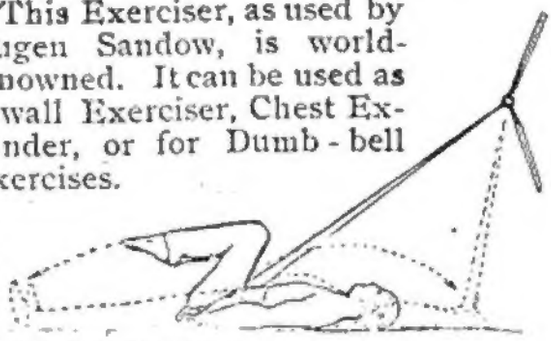

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... OF ...

# PHYSICAL CULTURE.

Editor: EUGEN SANDOW.
Assistant Editor: FRANK PINK.

MOTTO:—*Mens Sana in Corpore Sano*—A SOUND MIND IN A SOUND BODY.

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## NOTES FROM MY NOTE-BOOK.

BY THE EDITOR.

I am a strong believer in the intimate personal association of an editor and his readers, for, in many cases, the readers of a paper look upon the editor as some vague and unknown quantity, occupying a mysterious room in a palatial building, and seated in a cosy arm-chair, with a waste paper basket on one hand and a blue pencil in the other. In my own case, however, I am glad to say that I have the pleasure of the personal acquaintance of many of my readers, and that those who do not know me so intimately, know at least that I am no bespectacled and pedantic autocrat whom they must approach with due feelings of reverence and awe.

o——o

On the other hand, I wish each individual reader of this paper to feel that I take a *personal* interest in his physical and mental welfare. I want him to write to me just when the mood strikes him, to tell me his hopes and fears, to confess his shortcomings, and to seek advice in his difficulties. As most people are well aware, the physical uplifting of humanity is with me no mere academic question, but a real, live, throbbing subject, vital in interest and superlative in importance. I want this country to produce *men*, and you are one of the nation's sons, no matter how humble your position, or how distressed your circumstances. So each individual reader need never have the slightest hesitation in writing me, and my advice and experience are gladly at their disposal.

o——o

Quite a number of my readers tell me from time to time that their friends and relatives ridicule them when they take up physical culture at first, and one reader tells me that his brothers have even gone so far as to call him mad. Well, there was once an officer who brought a report to Napoleon, saying that a certain general of his army was mad. "I wish he would bite the others," was Napoleon's reply. And I only wish that my

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correspondent would affect his brothers with the same insanity as that from which he himself suffers. If there was more of that species of lunacy there would be a slump in asylums.

o——o

While I am always willing to help my readers, I need scarcely say that I appreciate reciprocation. There are many little ways in which any reader can give the Magazine a push-up. For instance, one reader, who is a hairdresser, after reading his copy, places it in his saloon for the benefit of his customers. Who knows what good seed is sown in this way? Another has given his newsagent an order for a certain number of copies weekly. If the agent sells them, well and good; if not, this enthusiastic reader takes the surplus copies and distributes them. These are little actions that tell, and almost every reader can help in some way.

o——o

It only costs a half-penny, for instance, to drop me a postcard, and tell me where you think the Magazine might be better made known, or give me the name and address of a newsagent with some enterprise. I feel certain that by co-operating with me in this way, the circulation of the Magazine could be nearly doubled. I should like to see the Magazine in every club, school, and gymnasium throughout the country. So, altogether, boys! and give your editor all the help you possibly can.

o——o

The practice of giving alcoholic drink to very young children is one of the saddest spectacles of London life. Mothers do not seem to have the slightest idea of the danger of this pernicious practice. Professor Marsh, of Cambridge, lecturing recently before a meeting of working men at the London Chamber of Commerce, described a case where he and his colleagues actually found a child, two years old, suffering from a "gin" liver. It was shown some gin and water, and grabbed for it with the avidity of an old toper, and when shown an old clay pipe seized and took two or three puffs from it with evident delight. Those who are fighting against physical deterioration have their work cut out when such things exist in the world's richest city.

Now that the taxpayer has to provide free education for the children of the State, and may soon be called upon to provide free meals for a good many of them, a writer in *The Nottingham Guardian* suggests, as a matter of fair play, that children should be taught military drill while at school under the instruction of competent non-commissioned officers. They should also be taught the handling of the rifle, and cadet corps might even be established, as is already done at Eton, Harrow, Rugby, etc. A very good suggestion, and one that I have often put forward in these columns.

o——o

"Until infants—children under five years of age—are excluded from our schools," said Mr. A. E. Flavell, of the Birmingham Education Committee, in an address to the members of the British Child Study Association, "the aim of the teacher should be the promotion of the children's physical health and bodily development, and the development of intelligence through the natural method of bright surroundings, free talk and play." This is the opinion of everyone who has studied the psychological aspect of the question, and it is gratifying to note the steadily dying belief in the old-fashioned methods of cramming the minds and subjecting the body to all kinds of unnatural and unchildlike restraints.

o——o

As my readers are aware, I was the first to advocate Curative Physical Culture in this country, instead of the much-advertised quack medicines one sees so extensively advertised. I see that the American postal authorities have issued a most sweeping order against these advertisements, and have notified the *New York Herald*, *New York World*, and the *Evening Telegram* to cease publishing so-called medical advertisements under the penalty of losing the privilege of the mails.

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## Do Women Wash?

**Sometimes, but not often enough, says Canon Jephson.**

By washing, of course, the worthy canon, let it be understood, means "washing all over." For every woman who uses the public baths in Southwark, says Canon Jephson, there are four men. Why this unwholesome spirit of uncleanliness among women? Meanness, says the canon. "Man looks on the bath as a pleasure; woman looks upon it as a sort of unattainable luxury," he said to a Press man. "Women will think twice before they spend twopence on a bath, whereas a boy or a man would not think twice about it. Women do not spend their pence on luxuries. A man has more money, and spends it more freely." Of course, a woman might be cleanly without making use of the public "slipper" baths, but the fact remained that those baths were not so popular with the women as with the men, though he knew of careful mothers who were in the habit of taking their four or five children to the baths, and washing them all thoroughly.

"The women have not got the money," repeated the reverend gentleman—"the men keep it." Boys and men earned much more than girls and women, and the result was that whereas on a Saturday night one might see men and boys expectantly waiting in long rows for "a tub," a woman had no difficulty in getting a bath. Another effect was that the swimming baths for women were much smaller than those for men.

## New Made Eggs.

The first analysis of natural albumen is stated to have been accomplished by Professor Emil Fischer, of Berlin. He has established the composition of the various ingredients, some of which he is said to have since produced. The substance thus obtained possesses a large number of the properties characteristic of natural albumen. We shall soon have to ask for "new-made" instead of "new-laid" eggs.

"The design of Fellowship Medal could not be better."—Victor Spyers, Portsmouth.

## Pneumonic Babies.

**Taking the Open-air Cure on Roof Tops.**

America's high and flat-roofed sky-scrapers are at least serving one good purpose. On the roof of some of them, children suffering from pneumonia are being given a course of the open-air treatment, with apparently satisfactory results.

No medicines are used. The children are sustained with nourishing foods and are given all the water they can absorb. They are kept in the open air for six hours a day. The twelve now under treatment are typical cases of double and single pneumonia. Seven are "bottle-fed" tenement babies, lacking in vitality. Under ordinary circumstances the mortality is between 35 and 40 per cent. The open-air treatment has reduced this to less than 2 per cent., which is a little less than the mortality among infants between the ages of two and seven where the environment is most favourable.

The accepted treatment of pneumonia up to this time, in child or adult, has been to keep the patient in a temperature of 75 or 80. Hot drinks and a strict avoidance of draughts have been deemed imperative. All this has been changed. These babies breathe unheated air, even if the mercury is down to zero. They drink as much cold water as their little stomachs will contain. No hot drinks are given. The results have been marvellous.

On the hospital roof recently was "Mandy," a piccaninny, who appeared to be dying. Both lungs were consolidated, the temperature of the body had risen to 106, and respiration had gone up to 40 or 42 a minute. Four days on the roof brought "Mandy" round to the point where the breathing was nearly normal.

The importance of endurance to success in almost any line of effort is presented and emphasised. Training indulged in for athletic competition is not regarded as usually the sort for creating real endurance. Conversion of vital energy is the secret of real endurance, with a surplus of energy over the amount expended. "The secret of endurance, then, is vital economy." Moderate eating at intervals of six hours or more, free water drinking, deep breathing, daily bathing, outdoor exercise and rhythmical movements are some of the means advised for the development of true endurance.

# WATCHING THE BRAIN AT WORK.

## A Bed that tells exactly how Exercise affects various parts of the Body.

THE muscle bed is the latest outcome of the ingenious American brain. It has been invented by Dr. Anderson, of Yale, and it shows just what exercises are most beneficial in building up those parts of the bodies that are overtaxed by mental concentration.

With men who use their heads constantly, the blood supply for the brain is dependent, of course, on the heart and the muscles of the centre of the body. These parts of the body are constantly being used to pump into the brain the requisite supply of blood, and if they are taxed continually without in turn being developed properly, and if new blood is not sent in to them to refresh them, an unexpected demand on them, as in fighting disease, is almost sure to result in their giving out.

### THE MUSCLE BED.

Several years ago Dr. Anderson, while in Sweden, was asked by an instructor in athletics there for a practical way of determining the centre of gravity of a person. Jokingly Dr. Anderson suggested that to swing a man across a swinging bar until he balanced would give it approximately.

With this idea in mind Dr. Anderson went to work on the muscle bed, with the result that he has now perfected what he regards as one of the greatest aids in physical development. By this instrument he can tell how much real good a certain set of exercises does in driving the blood supply to certain weak spots. What was a matter of speculation in regard to exercise can now be definitely settled by this bed. About a year ago Dr. Anderson finished and set up in the gymnasium a rough model of this bed, and on it tested many of the Yale athletes and professors.

The new muscle bed is a board about seven feet long hung on two knife blades, one on each side, and so delicately balanced that the steps of a person entering the room set it vibrating. The equilibrium of the bed is determined by a spirit level. An indicator on the side tells the angle of variation, and a scale gives the degrees of vibration brought about by certain exercises.

A person placed on the table is first told to solve some easy mathematical problem involving the multiplication table. As he concentrates his attention on it the table vibrates and the indicator moves very slowly toward the head, where the blood is being forced by the mental concentration.

### DANCING IN BED.

If, then, Dr. Anderson gives his subject a problem whose solution requires greater effort, the head of the table moves further downward as the centre of gravity of the subject rises. Frequently a change of three or four inches in a person's centre of gravity is observed under these conditions.

In order to reverse things and call the blood away from the head, the student is told to lie perfectly still and dance a jig in his mind. If a piano is near and the music is started, although the subject does not move at all, the head of the muscle bed rises as the blood rushes to the feet at the summons of the thought of a dance, and the person's centre of gravity is lowered.

By means of this bed Dr. Anderson can try several sets of exercises, and by placing men on the bed after each set, can determine by the readings which set sends the greatest amount of blood to the desired spot with the least exertion.

"I have been able to tell to a certainty," said Dr. Anderson, "just what

exercises are most beneficial for the man with weak lungs, for example; that is, what form of exercise can be given to the patient which will tire him least and yet give him the best blood supply.

"At examination time, for instance, I put a student on this table just after a severe test of two or three hours, and the bed will show at once when the greatest amount of blood is in the head, and then exercises can be prescribed which in the shortest time will put him back into shape again.

THE BRAIN AND THE HEART.

"Few professors or other persons who use their heads a great deal realise the importance of washing out the body with pure arterial blood every day, and this can only be accomplished by proper exercise of parts not used in the everyday business. A man who is using his brain eighteen hours a day is putting a tax on his heart and the organs of his trunk that they cannot stand unless they are properly trained.

"There are really two brains, the motor area, or muscle brain, and the higher sensory, or mind brain. Now the strengthening of the first is going to help the second, for they are closely associated.

"A man studying year after year one subject, which taxes a certain small part of the brain, and failing to develop adjacent parts of the brain, is running a great risk of suddenly having the used part go back on him and then not being able to draw for force on adjacent parts; he is done for, and so-called heart disease is the result, though in many cases the heart may be in normal condition."

Many of the Yale professors have made various experiments with the bed and are trying certain sets of exercises to counteract the effects of too great mental application.

"Where a man puts his mind on the exercise the results are a hundredfold more beneficial," said Dr. Anderson. "The supply of blood to various parts of the body is not increased very perceptibly by monotonous exercises on the gymnasium floor, for example, but let a man go into some game where his mind becomes engaged and the blood supply is greatly increased and the result is different.

"That is the secret why outdoor games —rowing, baseball and football—are so much more beneficial than work in the gym. Years ago a prominent professor of athletics told me that he thought that exercise in which a man took an interest was more beneficial than mere routine work, but no one dreamed of the great difference in the results obtained until the chart in the muscle bed was read.

"For that reason the daily walk of the professional man as a constitutional does not amount to much as a beneficial agent, as he carries with him his worry, and the circulation is not increased; but if he goes out and plays golf, for example, the blood goes dancing through his veins."

If outdoor exercise cannot be indulged in, the best results, according to Dr. Anderson's muscle bed, are obtainable by working before a mirror, where the muscles can be watched as they expand. "Here at Yale," said Dr. Anderson, "we count gymnastics as only a small part in physical development. Physical development is valuable not in muscular feats, but in brain results.

"The value of this development in its effect on the central nervous system is one of the things impressed on the students. I have never known a student to commit suicide unless there was some organic physical disarrangement at the bottom of it.

"In connection with the professors of mental philosophy, the Yale gymnasium is now working to impress on the students who leave Yale the importance of all-round development. Some of the greatest men of the country seem to be blind to that feature and rush on in a way that is certain to end disastrously.

"President Harper, of Chicago University, for example, is devoting all his time to the mental side, with the result that sooner or later he is going to feel disastrous effects. If he had not been built along strong physical lines with a thick deep neck he could not have stood the pressure so long as he has."

# SWIMMING FOR HEALTH AND PLEASURE.

By Miss ANNETTE KELLERMANN.

THE following interesting article has appeared in the columns of the *Sunday Chronicle*, the popular Manchester Sunday journal, and at this period of the year will be read with the greatest interest. Miss Kellermann, as, no doubt, our readers will remember, was recently interviewed in these pages.

It is, I believe, only during comparatively recent years that medical authorities have grasped the fact that swimming, properly and temperately utilised, plays an important, even a leading part, as a health restorative.

Personally, since I was a youngster, standing no higher than a St. Bernard dog, I have taken to the water in perhaps rather too "finny" a manner. But I have, from the standpoint of health, benefited in a truly wonderful manner.

I have frequently been asked how I can possibly enjoy my daily swim in the depth of winter when snow is on the ground, and when skating is in full swing. Certainly there is something rather Arctic about the idea, but I can assure the most sceptical that after a few weeks' devotion it seems almost a crime to miss the daily dip.

My advice to those who are inclined to explore the mysteries of swimming as a tonic and health restorative is to go first to a doctor to satisfy themselves that, constitutionally, they are strong enough to undergo the course, and then to begin at once. There is no time like the present, even though the present, from a climatic point of view, may be a little frigid.

### A FATAL ERROR.

The best time to take the daily swim is about two hours after eating a substantial breakfast; swimming on an empty stomach is the greatest mistake in the world. I also strongly advise searchers after health and strength not to swim when tired.

As regards the choice of strokes, I lean towards the breast stroke, especially for beginners, as it develops the lungs and back in a truly extraordinary manner.

Variety, however, is a good thing, and as soon as the breast stroke has been thoroughly mastered, it can, with advantage, be "understudied" by the side stroke, which develops the chest in a manner that only those who have a practical knowledge of swimming can adequately realise.

Of course, I frankly admit that sufferers from a weak heart, nervous debility, and kindred complaints, are physically incapable of undergoing a course of swimming all the year round. Still, there are, I am convinced, thousands of people to-day taking quack medicines, and generally "groping about in the dark" in a futile search for the secret of health, who would benefit to a very appreciable extent by studying the art of natation.

My daily day is simplicity itself. I rise between 7.30 and 8.30, have a cold fresh water bath wherewith to sharpen the edge of my appetite, and then I partake of a substantial breakfast. Next I scan the daily papers, and then about an hour and three-quarters after breakfast I set out for my daily swim. Wet or fine I invariably walk to the sea or baths as the case may be.

Well, after my swim, which, when I am not in special training, lasts between half an hour to an hour and a half, I walk home again, and rest till lunch time. I would here point out that beginners should not remain in the water at first longer than ten minutes or a quarter of an hour.

About an hour after luncheon, I practise dancing, which is a magnificent exercise. There was a time when I used to cycle daily, but I abandoned the exercise when told that it caused certain muscles to become stiff. I sometimes substitute skipping or club swinging for dancing.

Surely it would be impossible to imagine a more simple or less expensive health cure, and yet I am convinced that the simple rules I have laid down are worth their weight in gold to those who will only give them a fair chance.

### ECONOMICAL LIFE-SAVING.

From the standpoint of health and humanity I have always held the opinion that a girl should be taught to swim and revel in the water as well as her brother.

Since I have been in England—I'm an Australian, as perhaps you may know—I have remarked on innumerable occasions that, while boys are well catered for in the matter of exercise and sports, girls, especially in large towns, are somewhat neglected.

Although it has never been my good fortune up to date to be the means of saving somebody from drowning, yet should occasion arise, I trust and think I shall be competent to do so.

Once in Sydney early last year I chanced to be at a certain baths. A lady was in the water, and although in no immediate danger of drowning she called out for assistance, whereupon I immediately jumped in, and literally hauled her out—she weighed about fourteen stone, to estimate most moderately.

On recovering, she asked me to leave my name with the lessee of the baths. I told her not to trouble further about me, to which she made reply that she would leave a present for me.

And she did; she left me one whole shilling.

The lessee, when I told him of the princely gift I had received, was furious, and when next he met the lady indignantly pointed out to her that if she valued her life at so low a figure, I placed a higher estimate on mine, to say nothing of a fierce black eye I had received as the result of a kick accidentally given me whilst struggling with her in the water.

And, after all, one shilling and a black eye is not a handsome remuneration for saving the life of a lady weighing fourteen stone. Mathematically speaking, it does not represent a penny a stone, which is not even "remnant sale" price.

From time to time I receive a very large number of letters from people living in various corners of the globe, on all sorts and kinds of subjects. Some six months ago I received a letter from a gentleman living at Scarborough, stating that as I always looked in such robust health "could I impart to him the secret of this much-to-be-desired consummation," as he had been far from well for a long time past.

I wrote in reply asking him his age and a rough outline of his complaints; the net result of my enquiry was satisfactory, and I therefore advised him to try a course of swimming on the lines I have laid down in this short article.

Three weeks ago I heard again from my erstwhile invalid correspondent, who enclosed a letter from his doctor saying that my treatment had done more for the patient in three months than had his in two years.

So I think I am entitled to my belief that in many cases swimming as a health restorative has no equal.

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The greater your facilities are for acquiring knowledge, the greater should be your efforts.

The highest possible wisdom is within the reach of every human being, and yet man insists on, and persists in, remaining ignorant.

If an individual has a right to anything in this world it is his own body, and the right to his body carries with it the right to choose his own physician and medicine.

Shall we ever begin to think for ourselves about hygiene, sickness, and health, or must we continue from the cradle to the grave to bow our whole bodies in absolute subservience to ideas whose only merit is that they are time-honoured? Man—know thyself.

The eye of a cultivated person is full of meaning. If you read it attentively it will seem like a mirror, revealing the inner world of thought and feeling as the bosom of the smooth lake reflects the image of the earth around and the heavens above.

# ARTICLETTES.

### When are we Strongest?

THE lifting power of a youth of seventeen years is 280 pounds; in his twentieth year this increases to 320 pounds; in the thirtieth and thirty-first year it reaches its height, 365 pounds. At the end of the thirty-first year the strength begins to decline, very slowly at first. By the fortieth year it has decreased eight pounds, and this diminution continues at a slightly increasing rate until the fiftieth year is reached, when the figure is 330 pounds. After this period the strength fails more and more rapidly until the weakness of old age is reached. It is not possible to give statistics of the decline of strength after the fiftieth year, as it varies to a large extent in different individuals.

### Energy Spent in Little Ways: Tons of Force Used to Write Letters.

IF a man realised at the end of the day how much energy he had expended in normal and almost unconscious physical activities, he would be thankful for the chance to sleep. The writer who pushes his pen over the paper for several hours at a stretch would doubtless think he had worked hard if he had excavated a well in the same time; yet it is believed that the sum of the energy he uses daily in writing would be enough easily to dig a well. The following figures are quoted from *Answers*.

Our daily expenditure of force is simply enormous, but it seldom strikes us that we keep on expending force without noticing it. The stoker of a locomotive, when on duty, is said to shovel coal at the rate of about one ton an hour. Presuming that he works at this rate forty hours per week, it is obvious that, in the course of a single year, he lifts over two thousand tons of coal.

Typewriting is not hard work, yet let us see how much energy it takes to write forty letters on a machine. Every time a key is pressed to print a letter a few ounces of force is used, and every time the carriage is returned to begin a new line between one and four pounds of force is requisitioned. Forty letters, averaging twenty-six lines each, would mean about twenty thousand pounds of force expended. Perhaps this never occurred to you before.

### What Animals Endure.

AT a time when sixty-day bicycle races, the so-called brutality of modern football, and endurance tests of the racing motor-car driver excite such a degree of popular interest throughout the English-speaking world, it might not be amiss to glance over the shoulder occasionally at a few records made by some mute four-footed or feathered champions who have established records in fields in which Nature herself, as umpire, read the inexorable law of necessity.

In reviewing some remarkable feats of animal endurance, the Chicago *News* mentions the case of a dog that was dug out alive from a rabbit hole, in the Scilly Isles, after having been lost for a fortnight.

Continuing, this authority says that whales and eagles come at the head of creatures that longest survive the evils to which other fishes and birds are heirs. Yet a whale has been found dead from a dislocated jaw. It is also recorded that an elephant died as a result of gangrene in one of its feet.

In a scotch deer forest not long ago a stalking party came across a magnificent golden eagle, dead, caught in a fox trap. He had been caught by the centre claw of one foot and had died of exhaustion in attempting to escape.

By his side were two grouse and a partly eaten hare, which other eagles had brought to sustain him in his fight for life. If a rat had been caught by his leg in a trap either he or his comrades would

have bitten off the imprisoned limb and released him.

The poor despised toad is not built to stand physical violence, but he would fatten on imprisonment. Toads imprisoned in rocks for years—no one knows how many—come to light from time to time, fat and well. Unless microbes, carried to them through the pores of the imprisoning rock, have been their fare, it is certain, according to naturalists who ought to know, that they have eaten nothing for an unthinkable period.

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### The Aim of Physical Training.

By A. A. Gour.

THE exercises should be chosen for their physiological effects, so that only such are used as are needed for a desired result; all of doubtful or injurious effects should be excluded. The development of the respiratory organs being of primary importance, no movement should be allowed which interferes with free respiration, and great care should be taken that the exercises promote proper carriage of the head and thorax.

Measuring a man's strength, we should compare the man to himself. One may have great lung capacity; he may be able to lift a great weight; he may be able to jump high, etc., but unless he possesses a healthy, well-balanced, well-proportioned body, under perfect control of his will, he lacks physical culture, he lacks reserve power to work on, even though, in the eyes of some, he may seem strong as compared to others.

It is health, symmetry and harmony we should aim at in physical training. No part of the body can be trained to possess exceptional power unless other parts are correspondingly neglected. Hence, the usual outcome of such training is ill-health, or a lack of physical equilibrium.

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### Who says Indigestion? Amusing Experiments to Test New Yorkers' Digestion.

PROF. MAX EINHORN, of the Post-Graduate Medical School and Hospital, has been feeding a number of New Yorkers on glass beads to find out how much they are behind the African ostrich in the matter of digestion.

The professor's extraordinary series of experiments, now just concluded, show that beefsteak and potatoes, the standard diet in this city, are harder to digest than is generally supposed. Other curiosities of digestion were also brought to light.

Prof. Einhorn chose small porcelain or glass beads for his experiments. At first he tried to coat the beads with the essence of various articles of food, but had to give that plan up. Several weeks ago he conceived the plan of "loading" the beads with solid foodstuffs by drawing them through the opening in the bead and tying them on with a silk thread.

To test the work of the digestive fluids in the stomach only Prof. Einhorn fed the "loaded" beads to his subjects by inclosing them in gelatine capsules with a long silk thread attached. The subject then swallowed the encapsuled bead, which was pulled up again after an interval of from four to six hours. In this way the extent of the gastric digestion was easily estimated. Other leaded beads were fed to the subjects without any thread attached.

Among the articles inserted in the beads were catgut, raw tendon, raw and boiled beef, raw chicken skin, raw and boiled potato, raw potato skin, apples, fishbones, wax, paraffin, stearic acid, suet and mutton fat.

According to Prof. Einhorn these experiments proved that in the average healthy New Yorker both catgut and fishbones were digested in the stomach, whereas boiled or raw beef, raw chicken skin, and raw as well as boiled potatoes did not disappear altogether in the stomach. The raw chicken skin and the raw muscle fibre disappeared further on, but the tendon was not digested at all. It was the same way with potato skin. Mutton fat remained unchanged in the stomach, but disappeared through chemical action later on.

The ease with which New Yorkers digest fishbones is taken to indicate they are descended from fishlike ancestors, of which there are several large examples in the Aquarium.

# THE SLAVERY OF TOBACCO.

## A Physiological View.

The following article is a vigorous philippic by Julian Hawthorne, the famous American writer, against the practice of smoking. It is not, however, a prejudiced diatribe, but strikes a strong physiological note, which should be studied by every young man.—Ed.

A CORRESPONDENT has called my attention to a communication in a newspaper from a medical man, over seventy years of age, who had smoked all his life, as had his father and grandfather before him, and who was still "sound as a dollar." Once, for seven months, he had, he said, relinquished the habit, but he had been assailed by so many aches and pains that he had (he says, at his wife's request) resumed it. Once again he had fallen very ill, and was given up by his physicians, but when almost in articulo mortis he had directed his son to light a cigar and put it in his mouth, and from that moment he had got better and was soon well. The object of his communication seems to have been to prove that smoking does a man no harm. And my correspondent wants to know whether I agree with the writer of the communication.

### THE WORLD BETTER WITHOUT TOBACCO.

I confess I regard the writer of the communication as a rather lamentable sort of person. As a medical man, he must know that tobacco has one effect upon one man and another upon another; that one man's solace may be another's poison. He has seen youth rendered impotent and driven to insanity by the abuse of cigarettes. He has known of cases of men of good intellectual possibilities made lethargic and incompetent by constant smoking and chewing. He is aware that, however shrewdly a grown man will defend his own practice of smoking, he will almost always have the grace to advise a boy against it. It cannot have escaped him that, though moderate smoking will do little or no perceptible injury to a man, yet the man who smokes in real moderation is an uncommon phenomenon; he is liable constantly to pass his self-imposed limits (whatever they may be), and to suffer accordingly, moreover, there can be no definite rules as to what moderation is; not only is an amount of tobacco which for one man would be moderate excessive for another, but the same man, in varying states of his general health, will find tobacco affecting him differently. And this medical gentleman will hardly deny that, taking all smokers together, the benefit which tobacco may do is immensely outweighed by the real harm it does. Ten smokers are injured more or less where one is really helped, and therefore the world would be, on the whole, healthier and happier if tobacco smoking were altogether stopped.

### THE LEGACY OF A BAD HABIT.

Any man who stops to think, and has the candour to accept the results of his reasoning, must know that all this is true; much more a medical man, whose knowledge of the effects of tobacco upon the body is not based upon external symptoms merely, but upon physiological and pathological information. And yet this medical gentleman does not scruple to lend the weight, not only of his personal authority, whatever that may be worth, but implicitly, the authority of the whole honourable profession to which he belongs, to the contention that a man may smoke twenty pipes or their equivalent every day for over seventy or eighty years, and be none the worse, but the better, for it. And this position he defends, not by any course of expert reasoning, but upon the simple circumstance that he himself and his immediate ancestors have done it. But let us take his argument as he himself gives it, and see what it amounts to.

He is a smoker by inheritance; that is, his father and grandfather had inured their systems to the tobacco poison, and as a consequence he was born with a predisposition to its use and the ability to

absorb more of it with impunity than the average man can. The same is true of other poisons, and a man may inherit the ability to use arsenic with no active ill effects; a man may inherit or acquire the ability to consume great quantities of alcohol, and yet live to an advanced age. There is an old story, possibly true, that an East Indian woman of great beauty was gradually inured to poisons until, while herself apparently healthy, her kiss was death, and it was proposed to destroy Alexander the Great by introducing her to him, with the intent to make him fall in love with her and die in her arms. But would any man in the enjoyment of his natural health and vigour consent to change places with such slaves of evil? De Quincey was a great opium eater, and he died in the neighbourhood of eighty years of age; but he would have given all he had to be free of the drug; and would you or I choose to be as he was, for all the literary fame that, in spite of his affliction, he gained?

### MISTAKES OF DRUG FIENDS.

A drug fiend may tell you, and tell you truly, that for all his drug-taking he has lived to be an old man, and has maintained a fair average of health; but there is one thing that he has not told you, and that is, that he is a slave. He cannot live without it; that is, he does not live without it; because he has not the strength of will to leave it off. He thinks he can leave it off, and says he can, and perhaps says he has done it—for a time; but he has taken it up again, and he has always plenty of ingenious reasons for the resumption. He was the victim of aches and pains; his wife urged him to resume; he had work to do that could not be done without his drug; he was dying, and only the drug could save him; and so on. After he has talked himself out, we come back to the obvious fact that he still takes his drug; he is irrevocably its slave. It has forced him to abdicate his authority over himself; he would regard with horror the prospect of being placed in a situation where his drug was inaccessible. Whatever else in life he may forget or neglect, he will never allow himself to be for a day or an hour without his drug. He is its slave; bound body and soul to its service. But he is seventy years old—eighty years old—with a body still capable of performing its organic functions! Yes; but mere life is not in itself so desirable a thing; it may be dishonourable and pusillanimous; unmanly; offensive to others; useless to others. This great hive of human industry wants no drug fiends in it; but the best brains, the most tireless energy, the soundest health, to comfort and grapple with the problems and industries of the coming ages. The best man, most thoroughly equipped by nature and by study, the soundest, sanest, most enduring, the readiest at a pinch, most trustworthy, purest and cleanest in body and mind, is none too good for the work he has to do.

### NO DRUG SLAVES NEED APPLY.

We want no tainted, offensive carcases, even if they can still stand in a human posture, and declare themselves to be alive. We want no man so ignobly selfish that, for the sake of gratifying a sensual craving, he will lessen his own efficiency in the world that harbours him, and slink away from the great battlefield to smoke and drink and abase himself before the throne of his sensuality. The slaves of tobacco, of alcohol, of opium in all its disguises, are the enemies of the future race, which they are doing their best to handicap and pollute; and more and more, as the work of the world becomes more arduous and delicate, these men will be dropped from employment, and the cleaner and healthier men, who are not slaves in that sorriest of all slaveries, will be chosen and preferred before them. The times are at hand that will try men's souls; and the souls must be of the finest temper—nothing less will serve. The septuagenarian who brags of his vices will not find himself in honour. Æsop tells of a fox who had lost his tail, and tried to persuade the other foxes that he was much easier without it. But they preferred to keep their own tails; and the tailless one was obliged to confess that he would have done more wisely, and much more decently, to have frankly regretted his mutilation, and to have withdrawn it as far as possible from public notice.

# ROPE CLIMBING FOR STRENGTH.

By EDWARD F. KUNATH.

(*American Champion* 1899, 1900, 1901, 1902, *and* 1903.)

ENTERING any gymnasium we invariably see the climbing ropes occupied by one or more of those present, in most cases more for something to hang on to than for climbing purposes.

The rope is such a simple piece of apparatus that its use is not much encouraged; presumably the proper way to utilise it is supposed to come naturally.

There is however, an art in rope climbing, and the proper way should be learned by all.

If the rope was more in use and had been universally practised, many a life would have been saved. A coil of rope takes very little room, and in case of fire, being quickly fastened to the bed and dropped from the window, is a safe avenue of escape to those who have learned to climb.

The exercise of rope climbing is one which, while it develops the broad muscles of the back, the pectorals and the biceps and flexor muscles of the arms, also creates strength to the thighs and abdominal muscles and the muscles of the hands and forearms.

Unlike many other forms of exercise, a strain while practising on the rope is impossible. It has often been said that to lift one's own weight will never hurt anyone.

To the student who wishes to develop himself and has only a limited time to spare from his studies, the rope should commend itself, regulated each time previously with lighter and counteracting exercises on some other piece of apparatus to limber up the muscles. There are two ways of climbing, the easier by using both legs and arms, while in the method known as "hand-over-hand" only the arms are used.

In commencing, it might be well to use the simpler form of reaching the top and employing both upper and lower limbs.

The rope in this case is grasped with both hands, the lower end passing between the thighs, under the knee and over the instep of one leg, while the other foot is placed on the rope where it crosses the instep and acts as a wedge to prevent the rope slipping.

In using this method the arms should be used as little as possible, the legs being brought in an upward movement from the waist, then sustaining the body while the hands are advanced.

Having become accustomed to grasping the rope, and the muscles used being strengthened, the hand-over-hand method will not appear difficult.

Like every other gymnastic movement, the right way is the easiest and least fatiguing.

I have tried various hand-over-hand

styles, but the following is the one I have used in all my record climbs :—

Keep your knees stiff and the back as near hollow as possible, pull the rope in the direction of the abdomen, meanwhile using the legs in a walking movement, keeping time with the arms. The object in keeping the body in this position is to obtain leverage with the legs each time the rope is reached for.

Proficiency in rope climbing is gauged in two ways, the speed in which you can climb a measured distance, or the distance you can climb without consideration of time consumed; this latter being a matter of stamina.

The former is the test used by the A.A.U., and is the one usually used. The rope may be any height, generally twenty-five feet from floor to bell attached, each contestant climbing against the watch. You sit on the floor to start, and from then till you touch the bell is the length of time recorded as consumed by the climb.

In preparing for the pistol sit on the floor and reach both hands as high up the rope as possible and keep both legs extended. When starting, the feet must be lifted clear, as, should they touch the floor, it would be a foul.

Don't overreach on the first pull; rather take one short pull, and then increasing gradually until you have reached the full stroke.

The same may be said in the matter of speed. Start easy and gradually increase rapidity of strokes, reserving your strength for a final jump to the bell. This jump is very important, and if the distance is carefully gauged it is possible to save an extra pull. It should be practised by gradually increasing the distance till you can no longer touch the bell.

Rope climbing, like other forms of gymnastics, must be practised till the climber can judge his distance and make the most of his reach and strength.

In selecting a rope, a six strand one-and-a-quarter inch diameter, manila one is the best. Until it is well seasoned, resin will be found an aid to the climber. The use of the gripping machine will be found of considerable benefit to the hands in climbing.

By tying a weight on to the lower end of the rope many little "tricks" can be performed, such as descending without the use of the hands, and head foremost. In all these tricks the leg and instep grip is used.

Any reader who wants to have strong arms and back should use the rope as often as possible; one rigged up in a barn or back yard will answer the purpose just as well as if it was in a gymnasium.

## The Chemistry of Eggs, Life and Death.

Briefly stated, the germ theory of animal life and death is that it is a fermentation and putrefaction. Expressed in terms of mineral or inorganic chemistry, this fermentation is in its different degrees an oxidization, or rusting, or burning. In inorganic chemistry the slow combustion of a substance with oxygen is rusting or oxidization; the rapid combustion is combination or burning. By analogy, it may be loosely said that putrefaction is to fermentation what burning is to rusting. Human life is sustained by a process which may be called oxidization, or, speaking very broadly, fermentation. To arrest this process or to hasten it too much is to cause death. To live at all, we must burn, oxidise, or ferment slowly by the combination of the substances of our bodies with the oxygen of the air. Certain substances tend to arrest this process; others to hasten it. Some chemists believe that certain vegetables, such as mate or Paraquay tea, contain substances that have this effect of temporarily checking oxidization in the body; that is, that they enable men to use their muscles for a time without wasting them. This is not proven, but it has been demonstrated that the continued use of those alkaloids which seem to check the fermentation or oxidization or slow burning going on in the body tend to produce death. On the other hand, nothing is better known than that whatever hastens the process hastens death. The poison of a rattlesnake has this effect in a high degree. Chemically, it is closely allied to the substance composing the eggs of fowls.—*Health.*

# "QUIT SWEATING, AND DIE."

## The Value of the Hot Air or Vapour Bath.

VICE, it has been said, is suppressed perspiration. The open skin is as necessary as the open door. Yet here is a Dr. Robertson actually having the audacity to declare that the bath is unhealthy. The new anti-bath theory was first exploited in one of the sensational American journals, but it has quickly been exploded by Dr. R. C. Fisher, who says that the natural avenues of escape for impurities are insufficient under modern conditions, and that the seven millions of pores must all be kept unclogged and in proper working order. Men, says Dr. Fisher, who work before furnaces, in rolling mills, in the glass works, and men who work in harvest fields and at any occupation requiring severe labour, perspire very copiously, and the skin becomes the recipient of this product of depuration, and obviously becomes very offensive in consequence of it. There is no simpler method of removing it than by applying soap and water. If this is left undone much of it is absorbed by the skin, and surely Dr. Robertson would not contend that this absorbed waste material would add to the purity of the blood?

The doctor also contends that an inactive skin is not detrimental to the health, yet these same workers fall in a dead faint and not infrequently die when they "quit sweating" and persist in continuing their labours before the hot furnaces. On the other hand, no matter how hot the day or how severe the labour, they may—and do safely—work as long as they continue to perspire profusely. Perhaps the doctor did not include this class in making his deductions.

### THE JAPANESE "TREAT."

It is the custom in Japan for all classes to bathe daily or any number of times a day. Instead of asking a visitor or a traveller to take a drink they offer him a hot bath, which is gratefully accepted. Yet the Japanese are singularly free from bronchial diseases, tuberculosis or other lung troubles. A Japanese once said to one of our countrymen: "Your people smell like sheep." Could he have met some of Dr. Robertson's admirers and based his judgment upon them?

Much is made of the fact that frequent bathing, by stimulating the sweat glands to increased action, makes of the skin a depurating organ, and in making this point I contend that Dr. Robertson defeats his own argument.

If we lived naturally, eating and drinking as nature intended we should, solely for the purpose of restoring waste tissue matter, eating pure food, drinking pure water, and breathing pure air with which to furnish pure material for replacing the waste of the system; doing natural work, sufficiently strenuous to stimulate the heart and quicken it at times, thereby giving a rapid blood stream to aid in this work, of cleansing the system; if we did all this, then perhaps we need not look to the skin to aid in the work of depuration.

We live unnaturally, eat wrong, drink strange drinks, smoke, snuff and chew tobacco, habitually breathe impure air, and from our superstitious fear of draughts prevent men who know better from breathing pure air, labour too little, and from all this make our blood stream impure, furnish impure material for the rebuilding of tissue matter, force extra work on the kidneys, until they become inflamed and alarm us by their abnormal action. Not harm, but infinite good comes from aiding other depurating organs, by stimulating the skin to action to aid in this work of depuration.

### WHAT PERSPIRATION DOES.

The alarming prevalence of Bright's disease and the increasing number of patients afflicted by that disease proves that we cannot have too many avenues of escape for the system's impurities. It has been truthfully said that Bright's

disease is more prevalent during a hard winter, and it is because the skin is less active during a cold winter—and the kidneys must do its work in addition to their own—that they give way from excessive work. To obviate this, in the cold northern states, the wise physician prescribes a daily sweat bath to stimulate the skin to action and relieve the kidneys of their excessive work.

Men who sweat freely suffer less from hard drinking and unnatural living. I have known men who were intoxicated daily to drag their unwilling legs to their hot furnaces at 4 a.m., and, after profuse sweating until 8 o'clock, would act and appear as fresh as the best. Men who use tobacco to excess throw off quantities of nicotine and stale tobacco while in the sweat bath. Other depurating organs have not eliminated this poison: why should not the skin be made to do it?

It has been truthfully said that personal experience adds but little to the strength of one's argument, yet I will say that for more than thirty years I have taken a daily sweat bath, followed by brisk rubbing of the whole surface of the skin with very coarse brushes, using soap and water freely, and during that time I have been singularly immune from colds, and have not suffered at all from bronchial or lung diseases.

The Esquimo, the ideal non-bather, rarely lives beyond 40 years, and once that disease of filth—smallpox—gains a foothold in a tribe only the hardiest survive. It is true that the young abhor bathing. They also abhor work, study, or duties of any sort.

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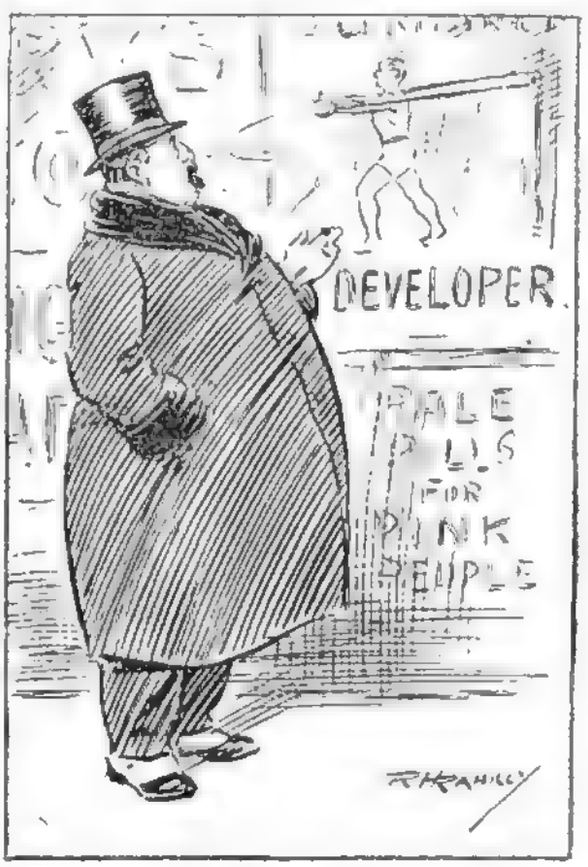
A Factory Gymnasium.—The importance of the gymnasium and its athletic adjuncts is what is known as "welfare work" is recognised by Thomas G. Plant, shoe manufacturer, of Boston, Mass., who, several years ago, for his 3,500 employés, equipped, at an expense of £10,000, a library, gymnasium, bowling alley, billiard room, recreation hall, etc. This has been recently turned over to the management of a new athletic association, the Queen Quality (the name brand of the shoes manufactured) A.A., formed by 2,000 of the employés, men and women.

## Man Made of Sea Water!

The popular belief in the curative and constructive efficacy of sea water is confirmed by the researches of the young French bacteriologist Rene Quinton, who has discovered that in all superior forms of animal life, man included, the liquid in which all the internal organs are perpetually bathed is chemically identical with sea water slightly diluted. He deduces from this that animal life was first formed in the sea.

The peculiar power of sea water is derived from the fact that it practically contains every chemical element known, from gold to potassium. The animal organism is a sort of sea water aquarium in motion, and disorder or feebleness in the organs may mean simply that the aquarium liquid is beneath the proper strength or improperly proportioned. Children are especially susceptible, and the premature or weakly are soon brought to sturdy health by treatment with sea water, administered either as a draught or by cutaneous injection.




M'Yes

*"Yes, that's all right for young chaps, but an old fogey like me has no stomach for that sort of thing."*

# LARGE v. SMALL FAMILIES.

## Which are Best for the Country?

LARGE families are looked upon as a sign of national virility. Small families are generally labelled "race suicide."

Governments dependent upon militarism, or great colonising peoples, naturally set a high value upon large families, through whom the land may be cultivated on the one hand, and its army ranks reinforced on the other. Mr. F. A. Doughty has challenged the statement that large families are desirable. Briefly stated, his views are as follows:—

THE INSTINCT OF SELF-PRESERVATION.

The modern tendency in all grades is toward the development and elevation of the individual as a unit. Among the reasoning, well-bred class the sense of parental responsibility, of obligation, extends over a widening area. It is the mother of the few children who develops the maternal instinct most fully and most admirably, for she has time to realise and to follow out its manifold bearings. The sorely pressed mother of a swarm is forced to be content if she can fill their clamorous stomachs, keep decent clothes on their backs, and send them abroad with tolerably clean faces. If she thinks sometimes of the higher spiritual development, it must be, perforce, with a despairing sigh. The desire to expand all the finer faculties of the child increases among parents as the social scale is climbed and the parental means and culture advance, and these children, by force of inheritance and of youthful environment, are found more highly organised and sensitive. It becomes evident that the self-preserving instinct, the necessity for concentrating advantages, is the chief factor in this noticeable appreciation of the small family on the part of our most refined and best educated citizens.

THE GREAT UNWASHED.

Pursuing another line of reflection, the writer urges that if civilization is in the future to depend upon the numbers of its exponents, it cannot be assured, as the unwashed will always outnumber the washed. Quality rather than quantity is the important consideration. More vital energies, moral, mental and physical advantages, in all probability, will be transmitted to posterity by three or four highly individualised, well-equipped representatives of a family than by eight or ten poverty-stricken weaklings and degenerates. As an odd illustration, the writer suggests that the locust, the potato bug, the army worm, even the insignificant house fly, coming in vast, incalculable hordes, might at some future day actually succeed in crowding out human life, and that if such a catastrophe were to be averted at the time of imminent danger, it would only be by a supreme exercise of the highly organized human brain as an offset to the persevering destructive instinct of the lower organism.

ROBUST CHARACTER WANTED.

As a matter of theory, Mr. Doughty's reasoning reads forcibly, and it will doubtless win many adherents, albeit many will recognise it as a new variation of the old Malthusian doctrine. But it is not true that the most cared-for become the best members of society. The children of large families, the offspring of healthy, industrious, right-minded parentage, usually gain in sturdiness of character, something far more valuable to the national life than a "highly organized individuality" or "sensitiveness." The little one who first opens his eyes in a household where earnest effort is essential, where self-sacrifice is manifest, where there is little time for idleness, gains early a sense of responsibility, of affectionate solicitude for the young and dependent, a habit of helpfulness, which is one of the best credentials that any young man and woman can carry into business life. In the necessary system and organization of the large family in the home, a breadth of view

and an elimination of the trivial occurs among the growing lads and lasses, rarely found among the petted and indulged young individuals who undergo the new culture. In its practical workings a large family of rightly born children—and by rightly born is meant those who have their just heritage of sobriety, level-headedness and capability from father and mother—begin to lift care from their parents much earlier in life and with greater surety than "only" children. It is much more likely to be the oldest son of a brood of eight or ten, —that unfortunate company which Mr. Doughty, by inference, would have us believe "poverty-stricken weaklings or degenerates"—who is ready to shoulder the father's burden when the latter's strength begins to fail, than the polished scion of the ambitious small family. It is the oldest daughter of the large flock who is the first to relieve the mother's cares. The larger families entertain and help each other, and, doing this, forget to be exacting and capricious. No one but the mother who has watched the happy companionship of little folks nearly of an age and has witnessed with a heartache the grief and discontent of the children left behind when death makes a gap in the circle, can realise the actual help that even little people render, when their first infancy is passed.

## THE DANGERS OF WET CLOTHING.

THE question of clothing is a hard one. Some years ago the tendency was to wear heavy-weight flannels. Men engaged in outdoor occupation, where they are exposed to severe cold, still maintain this habit with advantage. But a heavy-weight, impervious flannel is not a good thing for the sedentary man who is not exposed to severe cold for a long time.

It is good for everybody to wear such clothing that the air can reach the skin, particularly in mild weather. Men who work hard at physical labour, perspiring freely, and sometimes in wet places, are particularly liable to stiffness, neuralgia, and rheumatism.

This has been noted especially among miners and outdoor labourers of every sort. A writer tells about visiting a mine in South Africa where hundreds of coloured men worked underground, clad only in knee-length overalls and short-sleeve shirts, and shoes to protect their feet from sharp rocks. It was found that many of these men contracted pneumonia and died. They were also troubled with stiffness and rheumatism.

It was noted that this mortality and disease resulted from coming up from the hot air of the mine and sitting around in the cool evening air in wet soiled garments.

Acting upon medical advice, the mining company requested all men who came up at evening to take a plunge bath and put on dry, clean garments as soon as they emerged above ground.

As a result, disease of every kind rapidly diminished. The change for the better was not due to increased amount of clothing, for they put on but their two abbreviated garments, discarding even the shoes when above ground, but the skin and clothing were clean and dry, and the surface circulation good. So, by avoiding mucous lining congestion and skin-chilling, there was no soil for the pneumonia microbe culture, and good health in the camp was the result. It needed strict discipline to enforce this hygienic regulation, but it paid the company in increased results.

Never sit down to enjoy the cool evening breeze in damp, soiled day garments. Everyone knows how quickly the damp, wet feet, incased in wet shoes, will produce a catarrh or an irritation of the throat and nose. The principle is the same when wet and dirty clothes cover any part of the body and one is exposed to cool breezes. So far as colds are concerned, it would sometimes be almost better to take a rub down and absolutely remove the clothing.

## THE SEARCH AFTER THE SIMPLE LIFE. Six Men Living on 4d. a Day.

THE gospel of the simple life is finding many converts, and numerous interesting experiments in this direction are taking place. At Blackpool this summer, an enthusiastic clergyman is forming a simple life camp for a fortnight, and a group of well-known Parisian artists, painters, architects, and men of letters have formed the plan of founding a simple life city for themselves, far away from the fashion slaveries and the noise and bustle of gay Paree. The city will be a club, and membership is to be open only to those who are of good standing in the republic of letters and art. All are agreed that the city of the intellectual aristocracy shall be the very reverse of modern.

"It is essential to our plan," says one of the founders, "that we tread back to the ancient simplicities. We will have nothing to do with all the complicated mechanism which has impressed upon human existence its incessant vibration, its sickly fever. Modern inventions will be sternly barred out of our paradise."

The site of the dreamed-of City of Dream has already been decided—decided, concealed and discovered. It is Heraclea, an ancient Gallic city on the Mediterranean.

That site is still piously believed to be a deadly secret. Monsieur Sardou, who has bought large lands there, and Monsieur Nenot, official architect of the University of the Sorbonne, who has long possessed an ancient Roman villa on one of its choicest corners, are in deadly fear that some base speculator will buy up the territory before the new brotherhood of city-builders can organise the equally base financial side of the dream. There is no attempt to conceal the fact that before one can end one's days in the austere simplicity of Heraclea one must have coined one's intellectual wealth into sounding moneys good at vulgar banks. Monsieur Nenot deprecates talk. "It would be a disaster of the first magnitude to bruit the thing abroad; we must first make ourselves collectively proprietors of all the space our citizenship can come to need. One villa owned by someone not of us would break all the harmony of our city; the intellectual harmony would be shattered first and the material harmony not less. There will be no pillars, no pediments, no stucco wreaths or bouquets. Simplicity is the keynote.

"The picturesque rustic cottages seen to-day all through Greece might serve very well. Rather low, white, with verandas grown over with creeping plants. Nothing very high; the houses inside and out must give the appearance not of grandeur but of intimacy, of comfort with dignity. Walls must be very thick, good against heat and against cold—though, remark, we have no deadly chill of Mistral at Heraclea. All the villas must be of one character, though not, of course, identical. We will have no telephone, no electricity in any service. The railroad passes within two miles of Heraclea; it is too near almost; we must pray our patron Hercules that it never get any nearer."

Nearer home, an interesting experiment is being made by a party of six men, who are trying to live on sixpence a day. There were only three originally. Here was a sample day's meals, and the bill:—

| | |
|---|---|
| **Breakfast.** | |
| Maize meal porridge, 1 lb. ... ... | 2d. |
| Whole meal cakes, 1½ lb. ... ... | 2½d. |
| Sugar, 2 ozs. ... ... ... ... | 0½d. |
| Darlene, 2 ozs. ... ... ... ... | 0½d. |
| Dates, ½ lb. ... ... ... ... | 1d. |
| | 6½d. |
| **Dinner.** | |
| Boiled pudding (consisting of flour, 1½ lb.; currants, ½ lb.; darlene, 2 ozs.) | 5d. |
| Dessicated cocoanut, ½ lb. ... ... | 0½d. |
| Dates, ½ lb. ... ... ... ... | 1d. |
| | 6½d. |
| **Tea.** | |
| Fried maize meal fritters (ingredients over from breakfast) ... ... ... | — |
| Wheat water ... ... ... ... | ½d. |
| | 0½d. |
| **Supper.** | |
| Turnips, ½ lb. ... ... ... ... | 1d. |
| Carrots, ½ lb. ... ... ... ... | 1d. |
| Onions ... ... ... ... ... | 1d. |
| Lentils, ½ lb. ... ... ... ... | 1d. |
| Rice, ½ lb. ... ... ... ... | 1d. |
| Bread crusts ... ... ... ... | 1d. |
| | 6d. |
| Total ... ... ... | 1s. 7½d. |

The men all continue in good health and spirits. A piano has been taken into the house, and music has been added to the recreations available.

THE OLD "MACQUARIE," ONE OF THE OLDEST SAILING SHIPS STILL SAILING THE SEAS UNDER THE BRITISH FLAG.

*She comes, majestic with her swelling sails,*
*The gallant bark along her watery way;*
*Homeward she drives before the favouring gales,*
*Now flitting at their length the streamers fly,*
*And now they ripple with the ruffling breeze.*

## THIS SUITS MEN, TOO!

### A Club Everybody Should Join.

FIRST of all join the "Don't Worry Club." You cannot make fat and produce the adorable curves so beautiful in a woman's form if you fret and allow your strength, both mental and physical, to exhaust itself in fussing and worrying.

There is a wise old saw that says a sweet temper and a bony woman never dwell under the same roof. That is rather sweeping, to be sure, and the angular women may console themselves with another equally wise saying, that there are exceptions to every rule.

Rest all you can—get long hours of refreshing sleep. Keep in the open, but don't exercise too violently, never exhaust yourself. Ten hours' sleep out of every twenty-four is not a bit too much.

The very reverse of the rules for stout people are suitable for the emaciated woman who wishes to coax back flesh upon her attenuated figure. Given a woman without an organic ailment and free from heartbreaking troubles, the road for making curves is a path of flowers compared to the hard lines laid down for the obesity patient, says the *Philadelphia Inquirer*.

Eat a little at a time, but often, and, as much as possible, avoid the food especially advised for stout people. Summed up briefly, the rules for thin women are: Absolute freedom from care and anxiety, and at least ten hours' sleep out of the twenty-four. In addition to this, naps during the day. Sleep should always be natural, nothing being so bad for the appearance and general health as sleep induced by anodynes or narcotics in any form.

The diet must be liberal and consist largely of food containing starch and sugar; potatoes, fresh butter, milk and cream, fruits cooked and served with sugar, all vegetables containing starch and sugar, such as corn and sweet potatoes, beans, peas, foods of the macaroni and spaghetti kind; fish and oysters, ice cream, desserts with pastry; plenty of outdoor life, and a moderate amount of exercise.

Sleep in a well-ventilated room, fresh air being a necessity. I do not believe anyone can gain flesh if there is an internal disease, certainly not if there be a tendency to dyspepsia or liver trouble. Where the patient is plump in one part of the body and fails in another, a gymnasium course is suggested.

There is nothing better than moderate cycling, unless it be a regular gymnastic course, which is only advisable in winter. Where the development is meagre in the upper part of the body, swimming is also an excellent exercise. Walking is wholesome and within the reach of all.

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## Race Suicide.

**By J. Madison Hook.**

All the talk about "race suicide" is the veriest nonsense—in a country (the U.S.) where the population is doubled every 25 years; where land has risen five hundred per cent. in thirty years; where the facilities for home getting are lessened a thousand per cent. in the same time; where the press of population is rapidly becoming that of the older countries of Europe; and in a country where a half-million children that should not have been born are born every five years.

Who is this cry of "race suicide" coming from, anyway? From the mothers of the land? No, indeed! From the "lord paramount"—man, who delights in preaching "duty" to woman. Man is ready to do his part, certainly.

The right of woman to say how and when often she will assume the duties and dangers of maternity, must give way to this cry of "race suicide." What rot!

Undesired and unwelcome children, from a hereditary standpoint, is the cause of untold misery to mankind.

The man who cries "race suicide" proclaims his own ignorance of the laws of nature. Not all the wisdom in this world comes from high places. Sometimes the golden crumbs fall from the table of the student in the garret. Evolutionary forces are making, which no cry of "race suicide" will undo.

Reforms march onward. Woman's emancipation along the lines of maternity, motherhood, is now proclaimed, demanded and insisted on the land over. The battle is being fought in the privacy of the home. Man, the "gentleman" man, is giving way and will proclaim woman queen and arbiter here.

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Before the pupil of our intellectual eye becomes adjusted to the darkness of error, genuine truth dazzles and blinds us.

# SOME THINGS WHICH CAUSE HEADACHES.

SUGARS, sweet foods of all sorts, are the most frequent cause of headaches. A lack of green vegetables and fruits in one's dietary is perhaps the second greatest cause. Overeating—three meals a day without exercise—produces not only headaches, but also other serious diseases that follow in their trail. Vital energy, as well as muscular power, becomes sluggish. The brain and the liver give out, and we have what is known as "biliousness," a condition in which the stomach and intestines are overworked, the tongue coated, and the bodily secretions changed. The liver becomes engorged and congested, and constipation is the first result. These conditions, if allowed to continue, produce obesity, or extreme thinness, gout and many kindred troubles. It is not necessary to be "bilious." Such conditions are, however, frequently and most fortunately accompanied by nausea and vomiting, which relieves one quickly for the time being—but woe to the person who does not heed these warnings of Nature. The penalties become more and more severe with each attack, until not only the liver, but the kidneys as well, are involved, and are beyond the relief of drugs. Prevent rather than cure. Prevention is hopeful; cure is doubtful. Prevention is easy; cure is at the end of a long, tiresome, and unattractive road. Health is made and regained by using pure water, pure air, and sufficient pure food to suit the occupation and climate.

Bad combinations of good foods will also frequently produce headaches. Coffee, with cream and sugar, will disagree, where black, clear coffee, might be beneficial. In fact, a severe headache caused by heat and fatigue from long travelling, has been frequently relieved with a cup of clear, hot coffee taken slowly, without other food. A few almonds, thoroughly masticated will relieve headache caused by acute indigestion, while a large number of almonds, or those browned in grease and salted, will produce headache.

THE GREAT LOMA TRIO.
A Trio of well-known West Bromwich Athletes.

### The Poet Laureate and Nature.

"Nature has been a source of rest and refreshment to men and women, jaded, depressed, nerve-wrecked, by exhausting toil in cities, but never before was there so much need as now for the healing change and restoring solace she provides in the nursing homes of her green dells and the silent majesty of her mountains, and the melody of her brooks and waterfalls.

"Such is the comfort Nature offers for the fatigue and worry of this feverish modern life, and when those who have sought it return to the crowded urban existence, many a time they will feel and say, as Wordsworth felt and wrote:

"'The music to my heart I bore
Long after I was heard no more.'"

# In the Arena of Sport.

### Duffey will Fight.

Arthur F. Duffey, the American ex-champion sprinter, through his lawyer, has served papers on J. E. Sullivan, secretary-treasurer of the American Athletic Union, to show cause why the A.A.U. should not be enjoined from refusing to give him credit in the official records of the A.A.U. for the sprinting records made by him. At the annual convention of the A.A.U., last November, Duffey's records were thrown out by a unanimous vote on account of his being posted as a cancelled amateur.

### Canada at Athens.

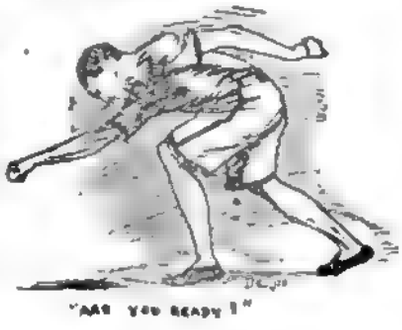
Canada will probably be represented in the Olympian games at Athens this spring by W. Sherry and R. Kerr in the running events, while D. Lynden and E. Hughes will walk and run, respectively, for the Toronto West End Association. E. B. Archibald, Toronto Central's crack pole vaulter, may also go.

### U.S. won't have Jiu-Jitsu.

The abolition of jiu-jitsu at the Annapolis naval academy is a possibility. Commandant Sands is at present opposed to the Japanese method of wrestling, which he deems not superior to the American style for physical training, more dangerous in practice, and as a sport unfair. He testified to that effect before a committee of the national house.

### Americans for Athens.

America is sending 50 or 60 athletes to Athens. To defray their expenses £5,000 has been raised. The men sailed on March 31st, and will call at Naples and Brindisi. For the gymnastic competition a team of eight has been chosen.



"Are you ready?"

### Fencer and Author.

Mr. Egerton Castle is not the only doughty fencer among literary men. Captain Sword and Captain Pen unite in the person of Mr. Newton-Robinson, a writer of admired volumes of verse, and the champion amateur of the foil among Englishmen. He has worsted France in combat, and will stand for England at the Olympian games, timed for April in Athens.

### Newcastle Enthusiasts.

Physical culture societies are quite fashionable in Newcastle just now, and all the societies are receiving plenty of support. The Tyneside Physical Culture Society has a splendidly equipped gymnasium, and a splendid programme was recently given before a large attendance of spectators. More actors and less spectators, however, is what we would like to see.

### World's Champion Weight-Lifter.

Mr. Arthur Saxon, whose photograph appeared last week, having proved his title to the world's championship at weight-lifting, is now posing as litterateur. In a forthcoming issue we hope to review his book, "The Development of Physical Power," which is about to be published.

Mr. Saxon was born at Leipzig, in Germany, 28th April, 1878, and since the age of 17 has been breaking records from time to time in weight-lifting.

His measurements are: Height, 5 ft. 10 ins.; weight, 200 lbs.; biceps, 17 ins.; forearm, 15 ins.; chest, 46½ ins.; thigh, 24½ ins.; calf, 16¼ ins.; whilst his records stand at: Snatch, 200 lbs.; double-handed press on the back, 386 lbs.; double-handed jerk from the shoulders, 350 lbs.; single-handed press from the shoulder, 370 lbs.

With regard to this latter lift there has been much controversy. It is hard to believe such a weight has been lifted, but we have every reason to believe that Mr. Saxon has fulfilled to the letter all the claims he makes, as he makes a practice of avoiding exaggeration at all times, both with regard to his measurements and to what he can lift.

He is anxious and willing to meet any man in the world in a weight-lifting competition for a sum of not less than £100.

North-East Manchester School of Physical Culture, St. Paul's School, Stanley Street, Ten Acres Lane, Oldham Road, Newton Heath, Manchester. Open Monday, Wednesday, and Friday, from 7.45 to 10 p.m., for Physical Culture, Weight-Lifting, Wrestling (Lancashire style). Terms moderate. Inspection invited. Secretary's address: 2, Hague Street, Newton Heath.

# RESULT OF DECEMBER COMPETITION.

## Over 18.

1ST PRIZE WINNER.

T. VAUGHAN,
Maida Barracks,
Aldershot.

MEASUREMENTS.

| | |
|---|---|
| Age, 23 years. | |
| Height .....5 ft. 4½ inches. | |
| Weight ..... 9 stone. | |
| Chest (con.) ... 33½ inches. | |
| Chest (exp.)... 41½ " | |
| Waist ..... 28 " | |
| Upper arm (R) 13½ " | |
| Fore arm (R) 11 " | |
| Upper arm (L) 13½ " | |
| Fore arm (L) 10½ " | |
| Hips ..... 30½ " | |
| Thigh (R) ... 19 " | |
| Calf (R) ..... 14½ " | |
| Thigh (L) ... 18½ " | |
| Calf (L) ..... 14½ " | |
| Ankle ..... 8 " | |
| Neck ..... 14 " | |

2ND PRIZE WINNER.

WILLIAM TURNER.

89, Fishergate Hill,
Preston.

MEASUREMENTS.

| | |
|---|---|
| Age, 19 years. | |
| Height ... 5 ft. 7½ inches. | |
| Weight 9 st. 11½ lb. naked. | |
| Chest (con.) ... 34½ inches. | |
| Chest (exp.)... 40 " | |
| Waist ..... 29 " | |
| Upper arm (R) 13½ " | |
| Fore arm (R) 10½ " | |
| Upper arm (L) 13 " | |
| Fore arm (L) 10½ " | |
| Hips ..... 31½ " | |
| Thigh (R) ... 21 " | |
| Calf (R)..... 14 " | |
| Thigh (L)..... 20½ " | |
| Calf (L) ..... 13½ " | |
| Ankle ..... 8½ " | |
| Neck ..... 14½ " | |

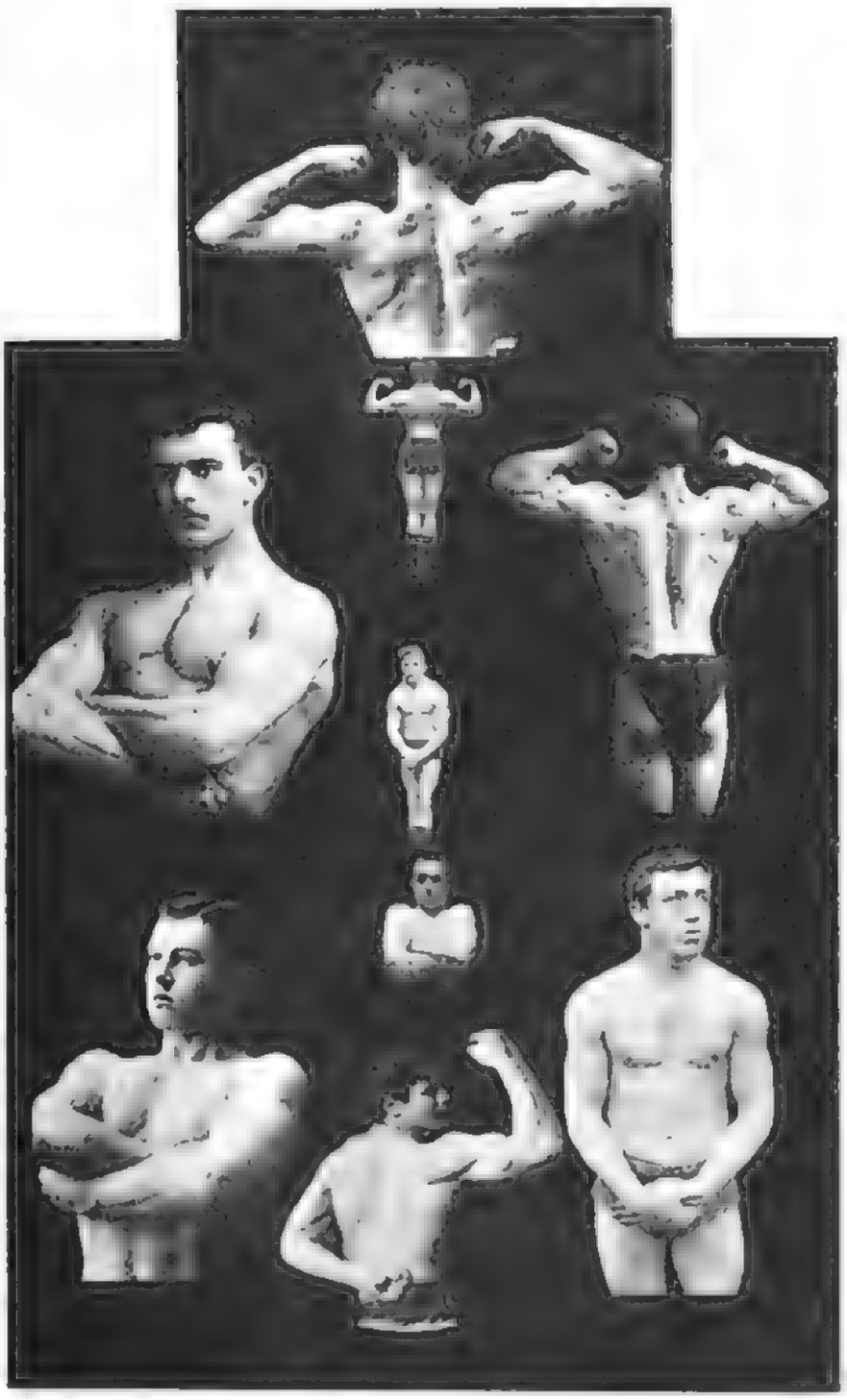
COMMENDED.

JAMES M. WRIGHT.

44, Rose Street,
Lochee, by Dundee.

MEASUREMENTS.

| | |
|---|---|
| Age, 24 years, 4 months. | |
| Height ... 5 ft. 4 inches. | |
| Weight ..... 10 st. 4 lbs. | |
| Chest (con.)... 37 inches | |
| Chest (exp.)... 42 " | |
| Waist ..... 26½ " | |
| Upper arm (R) 13½ " | |
| Fore arm (R) 10 " | |
| Upper arm (L) 13½ " | |
| Fore arm (L) 11½ " | |
| Hips ..... 35½ " | |
| Thigh (R) 21½ " | |
| Calf (R)..... 14 " | |
| Thigh (L) ... 21½ " | |
| Calf (L) ..... 14 " | |
| Ankle ..... 10 " | |
| Neck ..... 16½ " | |



PHOTOS OF THE WINNERS AND THE HIGHLY COMMENDED.

## Under 18.

1ST PRIZE WINNER.

ERNEST DODGE.

77, Annandale Road,
East Greenwich, S.E.

MEASUREMENTS.

| | |
|---|---|
| Age, 16 years, 10 months. | |
| Height ..... 5 ft. 6 inches. | |
| Weight 9 st. 5 lbs. stripped | |
| Chest (con.) ... 33 inches. | |
| Chest (exp.)... 41 " | |
| Waist ..... 27½ " | |
| Upper arm (R) 13½ " | |
| Fore arm (R) 11½ " | |
| Upper arm (L) 13½ " | |
| Fore arm (L) 11½ " | |
| Hips ..... 34½ " | |
| Thigh (R)..... 20½ " | |
| Calf (R) ..... 14½ " | |
| Thigh (L) ..... 21 " | |
| Calf (L) ..... 14½ " | |
| Ankle ..... 8 " | |
| Neck ..... 15½ " | |

2ND PRIZE WINNER.

J. JONES.

21, Norwood Terrace,
Headingley, Leeds.

MEASUREMENTS.

| | |
|---|---|
| Age, 17 years, 11 months. | |
| Height ... 5 ft. 10½ inches. | |
| Weight ..... 12 stone. | |
| Chest (con.) ... 36 inches. | |
| Chest (nor.) ... 40 " | |
| Chest (exp.)... 42½ " | |
| Waist ..... 27 " | |
| Upper arm (R) 13½ " | |
| Fore arm (R) 11½ " | |
| Upper arm (L) 13½ " | |
| Fore arm (L) 11½ " | |
| Hips ..... 38 " | |
| Thigh (R) ... 21 " | |
| Calf (R) ..... 15 " | |
| Thigh (L) ... 21 " | |
| Calf (L) ..... 15 " | |
| Ankle ..... 10 " | |
| Neck ..... 15 " | |

COMMENDED.

JAMES REID.

East Toll House,
Montrose Rd., Brechin,
Scotland.

MEASUREMENTS.

| | |
|---|---|
| Age, 22 years. | |
| Height ... 5 ft. 11 inches. | |
| Weight ..... 11 st. 12 lbs. | |
| Chest (con.) ... 40 inches. | |
| Chest (exp.)... 46 " | |
| Waist ..... 30½ " | |
| Upper arm (R) 15 " | |
| Fore arm (R) 12½ " | |
| Upper arm (L) 14½ " | |
| Fore arm (L) 12½ " | |
| Hips ..... 34 " | |
| Thigh (R) ..... 23 " | |
| Calf (R) ..... 16½ " | |
| Thigh (L) ... 22½ " | |
| Calf (L) ..... 16½ " | |
| Ankle ..... 9 " | |
| Neck ..... 17 " | |

# READERS' CLUB.

President - - EUGEN SANDOW.

*Motto:*—**One may Help Many.**

**For the exchange of ideas, personal experiences and photos for the encouragement of Club Members. Every Reader is a Club Member.**

**Readers are expected to act up to the Club Motto. and for services rendered the President will award to the sender of every published idea, experience or photo. the Club Fellowship Medal as a token that the rightful owner has earned the Fellowship of the Club.**

Will all those readers who are kind enough to send me photos. kindly put their name and address on the back of each photo., so as to avoid confusion and mistakes?

I shall always be glad to hear from any of my readers who have physical culture classes, philanthropic or otherwise, and, as far as possible, to help them by publishing photos. of the classes, or short paragraphs about their doings.

—THE PRESIDENT.

### For Early Risers.

Dartford.

SIR,—Perhaps it will help some reader who is going in for physical culture if I state my system of exercising. I commence work at 6 a.m., but I get up at quarter past five, and have about fifteen minutes on the developer. Then, at night, from 8 o'clock to 8.45 I do the Grip Bell exercises, and on Saturdays I finish with the chest expanding exercises.

I think it is one of the grandest things out to go in for your system, and I wish everyone would follow it up. I find that plenty of pure water and also a cup of Plasmon cocoa during the day help me a great deal. J. MITCHELL.

### How to Form a Harriers' Club.

Nottingham.

SIR,—I notice in the Correspondence Column of your magazine dated March 22nd, 1906, that one of your readers, who signs himself "C. A. B. (Exeter)," would like to know the best way of forming a Harriers' Club. Perhaps I can be of some use to him, as I and some friends formed one about three years ago. I started cross-country running at school about eight years ago, and when I left, no Harriers' Club had yet been formed in our city, so we formed a Harriers' Club of our own. The first thing we did was to call a meeting, and invite as many of our friends as would come to discuss matters. The first question we had to decide was, where were our headquarters to be? At length we finally settled to have a small dressing-room built, fitted with all the necessary requirements, namely, a copper for the supply of hot water, foot-baths, a small pump, a sink, pegs, etc. For this we pay £4 10s. a year, and as there are over twenty members, whose subscriptions each amount to 7s. a year, the expense is not so great as appears at first sight.

Another and perhaps cheaper way is to hire an outhouse, coachhouse, or large room, and I know several leading clubs who have found this very successful. Our runs take place every Thursday and Saturday, and we generally run distances of five to ten miles. I would warn every intending harrier to be careful when he is out running not to break down fences or tread down young wheat. If these directions are followed, the club will have no trouble with farmers, whom I have found, as a rule, do not object to harriers running over their fields if reasonable care is exercised.

Finally, I may say that there is nothing like continual practice and perseverance that will bring the smallest club to the fore, for quality, not quantity, is the essence of a Harriers' Club's success.

ARCHIE V. BRIGHT.

P.S.—If your correspondent requires further information, I shall be glad to communicate with him.—A. V. B.

### From Stern Caledonia.

Edinburgh.

SIR,—I am a reader of your excellent magazine on physical culture, and in a recent number I see that Mr. James Douglas Innes wishes to know where the other Scotch readers are. Here at least is one very ardent reader, and I hope to be able to convert others to the same idea.

Although only seventeen years old, I have found huge satisfaction in your developers, and when, after undergoing an operation last autumn, I was able to get about again, I found your apparatus most useful for recuperating physical energy, and one which more than makes up for my inability to play football this season.

I am now cramming for my medical "prelim.," and I am only too thankful for having my developers ready to thoroughly brush off the cobwebs after a hard day's book-work.

Hoping that you will find room for this in your magazine, and also that Mr. Innes will be satisfied that he is not the only pebble on the beach.

J. GALBRAITH GILL.

### Living up to our Motto.

Isleworth.

SIR,—Having been a reader of your magazine during the past five years, and having trained upon your system of physical culture during a like period, I thought you might care to hear my experiences, which might also interest some of your readers who, like myself, started at the bottom of the ladder.

As a youngster, and, in fact, up to the time of my taking up physical culture, I was delicate and suffered from lack of vitality and confidence.

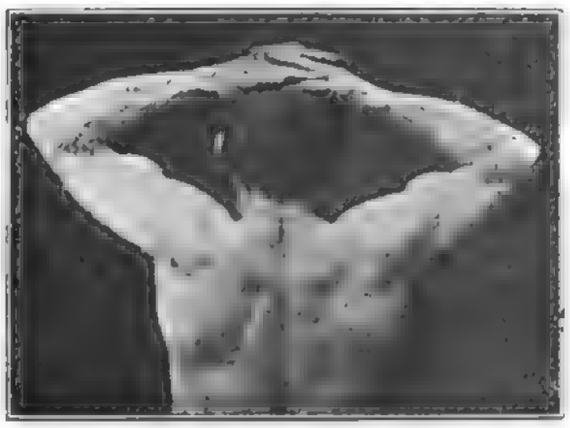
When I left school and went into business at the age of sixteen, I had never heard of "Physical Culture," and never dreamed that it was possible for one like myself to become strong—that I thought was only a gift, and, needless to say, I envied the fortunate possessors.

One day, however, one of my fellow-clerks brought to the office a copy of your magazine, and I read for the first time the doctrine of acquired health and strength.

I was seized with a desire to become as strong and well-developed as the men whose pictures I saw portrayed in the pages of your magazine.

That very evening I purchased a copy of "Strength, and How to Obtain It," and began to follow out the instructions contained therein.

I next invested in a Developer, and later a pair of Grip Dumb-bells, when they were put upon the market, and—to cut a long story short—I have worked steadily at your system ever since, with the result that now, at the age of 21, I am, I think I can say without fear of being thought conceited, at all events above the average in size and strength, and enjoy the best possible health.



*A well-developed reader.*

I used to be subject to fits of biliousness, but I do not remember having had an attack for several years.

I have attended at nearly all your schools, and have worked exclusively at your system, which I consider is the best for men of sedentary pursuits, and, indeed, for all whose aim is the obtention of health, strength and all-round fitness. I have had the pleasure of giving instruction in your system to many of my friends, all of whom have derived great and lasting benefit therefrom, and I hope to still further exemplify the club motto by spreading the knowledge of your system acquired during all these years, yet more widely among those with whom I may come into contact.

I have noted with the greatest pleasure the improvements which have taken place in the magazine during the last few months, and am especially pleased at the introduction of the Readers' Club, as I have long thought that some medium might be found whereby the many hundreds of "Sandowites" in all parts of the globe might be enabled to recognise one another.

SHIRLEY J. CROCKFORD.

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### Body Weight in Health.

Edinburgh.

SIR,—I have been a reader of your magazine for some time now, and note with pleasure the interest your readers take in your Gold Medal Photo. Competition. There is one thing which has struck me in connection therewith, which I think would be of interest to your readers, *i.e.*, the relation of body-weight in health to proper development. For instance, take two men of the same age and of ordinary good health, height being equal, say 5 feet 5 inches. One of them may weigh 8 stone 7 lbs., while the other scales 10 stone. Now, what I wish to get at is this: The 8-stone 7-lbs. man cannot hope to develop himself to the extent the 10-stone man can. That being so, how is one to allocate a prize for the best developed man, assuming that each has developed himself symmetrically? The one's measurements are much greater than the other's are. How would you decide such a case in connection with your Gold Medal Photo. Competition? I think it would be of further interest if you could give an approximate standard of development for certain weights. Let us take your own measurements as the ideal development for men of your own height and weight, which no one, I am sure, will dispute, if you will pardon a personal application. What, then, would you say should be the ideal development for certain other weights of men of the same height? My own height is 5 feet 5 inches, and weight for years has been 8 stone 7 lbs. What should my measurements be for said height and weight?

I think this an important query, as it would be a standard for each individual to strive to attain to, better than striving after a development it is impossible for him to attain. This question answered by you in your magazine would satisfy a certain amount of heart-burning between men of the same height but different weights, as to which was the most perfectly developed.

ARCHIBALD MCINTYRE.

[In deciding all our Competitions, the amount of development is estimated according to the individual height and weight. I published recently a table giving correct average weight and height at certain ages. Our Edinburgh correspondent should study this, and try and bring himself to the ideal measurements as far as possible.—EDITOR.]

### A Lift up for Poor Lads.

Wolverhampton.

Sir,—Some four months ago my thoughts were turned towards those unable to obtain the benefits derived from physical training. After some thought, I set about getting a room which would be available to hold a class. Having been successful, I then made known to poor lads the advantage offered them, and am pleased to say they took to it, and I have now a class of about one hundred and twenty members. I could have many more, only am lost for accommodation.

I think it is our duty as fellow-Christians to help those who are in need, and we who have every advantage, who, as it were, come into the world with our path paved, should assist others. And I am sure nothing better could be given to the poor growing-up lads than the natural methods of obtaining and keeping health and strength.

I may say I have the branch of the British Lads' Anti-smoking Union, being hon. sec., and it is meeting with good success. We hold a meeting every month, and by this means we get and keep the lads together. Shall be pleased to send you a photo. of the class later on.

Arthur W. Ford
(Gold and Silver Medallist).

[I shall be glad indeed to receive and publish photo. promised by my correspondent.—Editor.]

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97, Cadogan Gardens, S.W.

Sir,—I am greatly interested in physical culture, and what little spare time I have I devote myself to exercise, which keeps me in health and strength. I have used the Spring Grip Dumbbells for about three years, as regularly as my work will allow, and am quite satisfied with the result—chiefly permanent health.

I do my best to persuade my friends to become physical culturists, and in many cases succeed, for after the first few weeks they grow to like the exercise. At the age of eighteen I won the first walking race of our club, although I had never taken part in any competition before. I am also pleased to say I won the challenge cup outright on the third successive win, beating my own record each year, which, I think, was chiefly due to a steady life and the use of the Grip Dumb-bells. With the body in good order I was able to stand the strain easily. It is a pity so many young fellows neglect themselves. If they could only see as others see them, and exercise a little will-power, they might alter.

W. F. Wells.

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### Well Done, Lochgelly!

Lochgelly, Fifeshire.

Dear Sir,—Accept my best wishes for your excellent magazine. I am pleased to see it is steadily improving. The articles contained therein are, in fact, the best; they really do one good to read them. About six years ago I started to exercise with your combined Developer. It made such a difference in my physique and health that after using it about 1½ years I purchased a pair of your Spring Dumb-bells. I think they are the best muscle and strength producers in the way of health and strength appliances. Since then I have exercised every day, and now I am proud to say (thanks to you) that my physique and general health are greatly improved. I may also say I have taken out your magazine since the first number, and have derived great benefit from reading the excellent articles and experiences which appear in it from week to week.

Fifteen months ago I, along with a few companions, started a Physical Culture Class here, during which time I have acted as instructor. The idea in forming this class was to get the public in this locality to take an intelligent interest in their general health and development, as there was no class or gymnasium within eight miles. It has been a great success, especially this session. When I mention we have at present 36 members, you will see that Physical Culture has got a fairly good start in Lochgelly. The membership fee is 2s., and a monthly contribution of 1s. per member to pay for rent of hall, etc.

David G. Mechesney.

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### Lucky Barnsleyites.

Barnsley.

Sir,—Although I have noticed the great interest exhibited in the S.M.R.C., I have as yet made no attempt to win the Fellowship Medal, but do so now. Its motto is excellent, and I have tried to uphold it by presenting a medal to the Barnsley Y.M.C.A. Gymnasium (of which I am a member). This is to stimulate the interest in physical culture, and it will be presented to the member who shows the greatest increase in measurements after three months' practice.

I myself am a physical culturist of just over one year's standing, and during that time I have greatly improved both my health and physique. I started practising on February 28, 1905, using your Grip Dumbbells, which I consider the best appliance for a beginner, as he is bound to concentrate his will on what he is doing. I never missed my exercise for a single morning, till six months had passed; then I decided to have Sundays off. As I slept in the same room as two other young men (being in "digs."), you can easily see I was working under a great disadvantage. However, I stuck to it, and am now reaping the benefit of my labour.

Not only do I go in for physical culture, but I also go in for swimming, gymnastics, fencing, wrestling, boxing, and weight-lifting. I can place above my head with my right and left hand (slow bend press) 110 lbs. and 90 lbs. respectively. I can also place above my head a 56-lb. square weight, laid flat on the hand, 15 times with right hand and nine times with left hand.

C. H. Hollis

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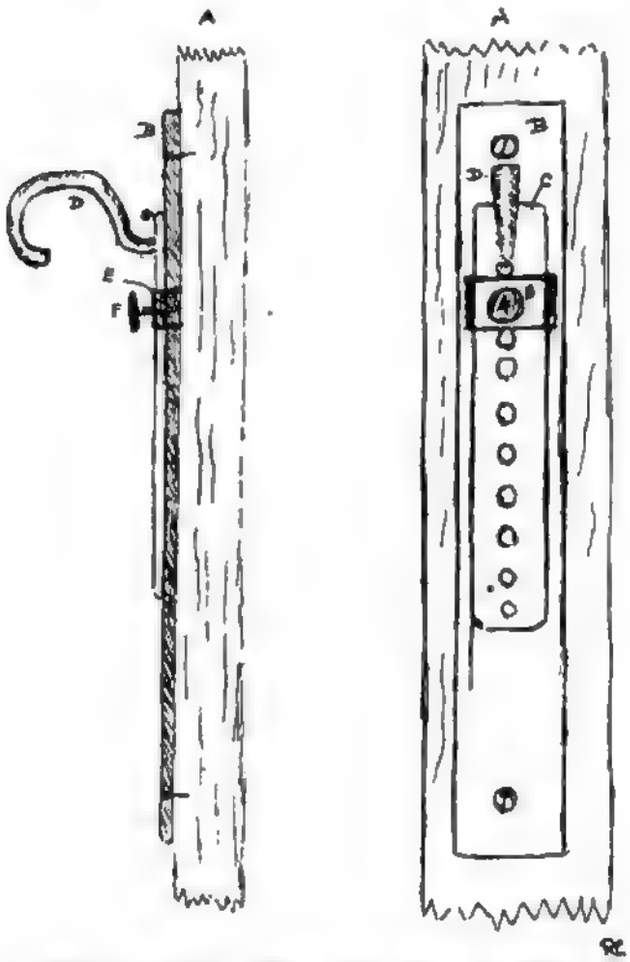
### A Useful Device.

Stanleys, Brockenhurst, Hants

Dear Sir,—I enclose for publication in your useful magazine, if you consider it of sufficient

utility to the numerous users of your apparatus, a little device in connection therewith. If this is unsuitable, kindly return the same to me.—Yours faithfully,

R. F. H. Crewe.




*A, Wooden support, such as door post. B, Metal plate screwed to support. C, Metal plate, holding hook. D, Hook. E, Clamp through which C D slides. F, Screw that fastens C D at required position.*

*Adjustable Hook for the Sandow Developer.*—In using the developer, it will be found, as the pupil gains strength, it becomes necessary to increase the tension of the strands, as they themselves, being of rubber, may have become slightly "slack," owing to damp atmosphere or heat. This can only be accomplished by moving one of the screw hooks, which results often in disfiguring the support, besides not giving satisfactory adjustment. By adopting this little device for moving the screw hook, these disadvantages will be overcome.

In the first place, only the lower screw hook need be moveable. (*See illustration.*)

Procure a metal blind-cord fastener, one in which the cord is adjusted by a piece of metal plate, sliding through, and fastened by a screw clamp.

The hook that the blind cord is attached to is necessarily too small to hold the strands of the developer; also the metal is too soft for the purpose. So take this out, and have a replica made of *steel*, but without the usual hook. Cut off the "wormed" portion of a Sandow Developer screw hook, and have the latter riveted and soldered into the upper part of the steel plate, about one inch from that end. Place this through the screw clamp, and you have a satisfactory adjustable hook.

Any ironmonger or village blacksmith will be able to do this work at little cost.

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### A Spartan Uncle and a Challenge.

Havant, Hants.

Dear Sir,—I started physical culture when I was about nine years of age, much against my wish. I had never heard of any such thing as physical culture until my uncle, who had been abroad for a long time, came home and found me a delicate boy with no liking for sport of any kind. This he did not like to see, and one night, when I was learning my usual school-work, he gave me a pair of your Spring Grip Dumb-bells. I had never seen anything like them before, and asked him what they were. He said, "Sandow's Grip Dumb-bells," and that I should have to use them every morning. This I did not like, as I always stayed late in bed. The next day he came to my room and pulled me out of bed about six o'clock, and took me to his room to give me the exercise. When it was finished he took me to the bath-room, and tumbled me into a cold bath, a thing I had never had before. The exercise and bath went on every morning for about eighteen months, until it was time for my uncle to return to his duties abroad, and I must say I felt much better both in health and strength.

When he went away I stopped all exercise, and went back to old habits; but when I was about fourteen years of age I happened to find that splendid book, "Strength and How to Obtain It," and in reading it I could hardly believe that such feats of strength could be accomplished and such benefits could be derived from exercise. I began to exercise again, using your dumb-bells and chart as before, but was rather half-hearted, and soon gave up, until about three months ago, when I made up my mind to start afresh and keep to it, so purchased a pair of 4-lb. dumb-bells and made out a course of exercise to go on with. This I have done ever since, and take cold bath directly after exercising, which I think is not complete without it.

I might say that I am enjoying the best of health now, and go in for all sport possible, including swimming, which I am fairly good at. I think most of my success has come from regular exercise, plain living, as much fresh air as possible, and cleanliness and moderation in all things. I will stand against any boy my own age for strength and endurance tests in the town in which I am now living, which is not very large.

Lionel Carte.

[I wish every boy had an uncle of Lionel's stamp. We should have no molly-coddles then.—Editor.]

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Letters have been received from the following: G. D. Stewart (Capetown); W. Turnhill (Perth); W. P. Curtis (Leytonstone); J. H. Donkin (Ryton-on-Tyne); E. Rope (Manchester); A. Pratt (Bradford).

# THE WORKING MAN'S PHYSIQUE.

## Two-year Old that Drank Gin and Smoked a Pipe.

THE British working-man is waking up. The Federation of Working Men's Clubs has just been responsible for a conference upon the subject of physical deterioration, and Professor Marsh, at the meeting, gave a most interesting talk upon those aspects of the subject which are concerned with alcoholism, diet and infant mortality.

"A NATION OF DRUNKARDS."

Professor Marsh showed himself a moderate man. He was not there, he said, to decry the moderate use of honest alcohol, but he did wish to say that he could think of no greater boon for this country than that its rising generation should grow up without the necessarily acquired taste for alcohol, for that would give us an England without drunkards; a prospect to gladden any man's heart. Regarding infantile mortality, the Professor said that the terrible fact that in some parts of this country 30 per cent. and 50 per cent. of infants born died before the end of their first year, was due not in any sense to physical unfitness at birth. They were very often beautifully healthy babies; they died from preventible causes, the chief of which was malnutrition.

The lecturer laid great emphasis on the urgent need of maternal nursing, and, where that was absolutely impossible, of the use of properly purified milk, and that only. He gave some terrible instances which had come before him during 25 years' practice in the children's hospital, of the manner in which children are done to death in England to-day from sheer ignorance and from that pressure of social and industrial conditions which too frequently robs them of the only safe and natural diet for young infants—mother's milk. In one case he and his colleagues found a two-year-old child clearly suffering from a "gin liver," and proved the diagnosis by showing the infant warm gin and water. The effect was magical. The child hailed the pernicious mixture with the avid delight of an old toper, and, on being shown a loaded and lighted clay pipe, clamoured for it and puffed it eagerly. Ætat two years.

WHY WORKING MEN DRINK.

The deadly peril of the rubber tube feeding-bottle was gruesomely illustrated, and the lecturer pointed out that the mortality among children artificially fed was fifteen times greater than among those fed naturally by their mothers. Some of the questions put to the lecturer were distinctly humorous, but, with perhaps one exception, all showed intelligence and real interest, as did the discussion which followed. The general feeling of the meeting seemed rather strongly in favour of the moderate use of alcohol rather than complete abstinence from it; and, again, rather against the suggestion that we were in any danger of physical degeneration, despite the falling birth-rate, and the medical rejection of three out of five Army recruits. The meeting also held that infant mortality was largely due to the pressure of existing industrial conditions, and that the drab monotony of the workman's life had much to do with alcoholism. One intelligent speaker laid stress on the poor preparation of average working-class girlhood for average working-class womanhood, and referred feelingly to the flat-chested products of factory life, who entered upon matrimony without knowing how to boil a potato or being capable of caring for a baby.

To all these Professor Marsh gave words of wise counsel. The whole occasion was one of deep interest, a function more compact of hopefulness than many drawing-room assemblies at the other end of the town, and of much more real worth to the nation, one fancies, than much bleating at Westminster. We congratulate the Federation of Working Men's Social Clubs, and are grateful to Professor Marsh.

## Man's Life as Affected by His Vocation.

**Musical Composers and Men of Letters are Shown to be the Most Likely to Reach Sound Old Age.**

THE Psalmist's "three-score years and ten" are not the average man's life, but are named as the average limit of those who arrived at a normal old age. The average life of men in various occupations appears in the appended table:—

| | YEARS. | | YEARS. |
|---|---|---|---|
| Rural labs. .. | 45.32 | Stone m'sons . | 38.19 |
| Carpenters ... | 45.28 | Plumbers ..... | 38.18 |
| Domestics ..... | 42.03 | Mill op'tives .. | 38.09 |
| Bakers ..... | 41.92 | Blacksmiths .. | 37.96 |
| Weavers ..... | 41.92 | Bricklayers ... | 37.70 |
| Shoemakers ... | 40.87 | Printers ..... | 36.66 |
| Tailors ..... | 39.40 | Clerks ..... | 34.99 |
| Hatters ..... | 38.91 | Av. pop'lation. | 39.88 |

The figures just given cover most classes of non-professional work. Musical composers, however, are said to live longer than persons engaged in other occupations, in proof of which this eminent list has been prepared:—

| | YEARS. | | YEARS. |
|---|---|---|---|
| Auber ..... | 98 | Gluck ..... | 73 |
| Monsigney ..... | 88 | Piccini ..... | 72 |
| Campra ..... | 84 | Gretry ..... | 72 |
| Cherubini ..... | 82 | Meyerbeer ..... | 72 |
| Rameau ..... | 81 | S. Bach ..... | 65 |
| Hadyn ..... | 77 | Halevy ..... | 63 |
| Spontina ..... | 77 | Boildieu ..... | 59 |
| Rossini ..... | 76 | Beethoven .... | 57 |
| Salieri ..... | 76 | Dalayrac ..... | 55 |
| Handel ..... | 74 | Lulli ..... | 54 |
| Paisiello ..... | 74 | Mehul ..... | 54 |
| Lesueur ..... | 74 | | |

With this as a basis, the average age of the musical composer would be about 71 years—approximately the biblical allowance.

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Knowledge is the surest way to rise out of bondage.

Wisdom is wisdom only to those who can discover it and appreciate it.

It is the opinion of many of the most learned men that ever lived that the practice of medicine has tended to multiply disease and abridge by many years the Natural term of human life.

## When Children Grow.

**The Laws of Child-Growth are Curious.**

Boys do more growing in the seventeenth year than in any other year; girls in the fourteenth.

Girls usually reach their full height at fifteen; boys at eighteen or nineteen.

From the eleventh to the sixteenth year the average girl is bigger and stronger than the average boy. She can't do the same "stunts," but that's only because she isn't in training. She has the muscle all right.

From November to April children grow very little. From April to July they gain in height most rapidly. From July to November they gain in weight.

In hot countries children of both sexes mature much more quickly. The winter cold seems to retard the growth of children just as it does of plants.

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## Many Happy Returns.

Just recently Mr. James Bell celebrated his hundredth year. He is one of the oldest, if not actually the oldest, tailor in the United Kingdom. *The Tailor and Cutter* records that he is very contented and cheerful, and takes an intelligent interest in all that is going on. His eldest daughter died on Jan. 4 last, at the age of seventy-six, and two days later—viz., Jan. 6—her grand-daughter gave birth to a baby-boy, so that he has lived to be a great-great-grandfather, seeing the fifth generation.

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## Arteries and Veins as a Race-Course.

**One Little Red Corpuscle may Travel One hundred and Sixty-eight Miles in a Single Day.**

The speed at which the blood circulates in the veins and arteries of a healthy man is something surprising. All day long, year in and year out, the round trips continue from the heart to the extremeties and back again. The red blood corpuscles travel like boats in a stream, going to this or that station for such service as they have to perform; and the white corpuscles, the phagocytes, dart hither and thither like patrol boats, ready to arrest any contraband cargo of disease germs.

The mileage of the blood circulation reveals some astounding facts in our personal history. Thus it has been calculated that, assuming the heart to beat sixty-nine times a minute at ordinary heart pressure, the blood goes at the rate of two hundred and seven yards in the minute, or seven miles per hour, one hundred and sixty-eight miles per day and six thousand three hundred and twenty miles per year. If a man of eighty-four years of age could have one single blood corpuscle floating in his blood all his life, it would have travelled in that same time five million one hundred and fifty thousand eight hundred and eight miles.

# Questions and Answers

— AND —

# Hints from Sandow.

*Although I have opened these pages for the purpose of coming into closer touch with my friends and readers, it must be remembered that space is limited, and I* CANNOT *prescribe courses here. All communications relating to instruction by post should be addressed to me at* BASING HOUSE, BASINGHALL STREET, E.C., *and these will receive prompt attention. Ordinary replies cannot be answered by post.*

### Heart Strain and Physical Culture.

L. H. (SOUTHPORT) writes that two months ago he had the misfortune to strain his heart, and his medical man advised him to refrain from practising Physical Culture for a month.

*Answer*: Your medical adviser gave you good advice, as obviously the best cure for a strain is rest. The question as to when you should recommence exercising I am certain you can fairly leave to the discretion of your doctor, who can examine your heart and advise accordingly. In any case, you would need to recommence with very light movements, and I believe it would be best for you to take a course of Curative Treatment under my direction, as then you can depend upon receiving the best possible advice and instruction, such as would gradually, yet surely, strengthen your heart and system generally.

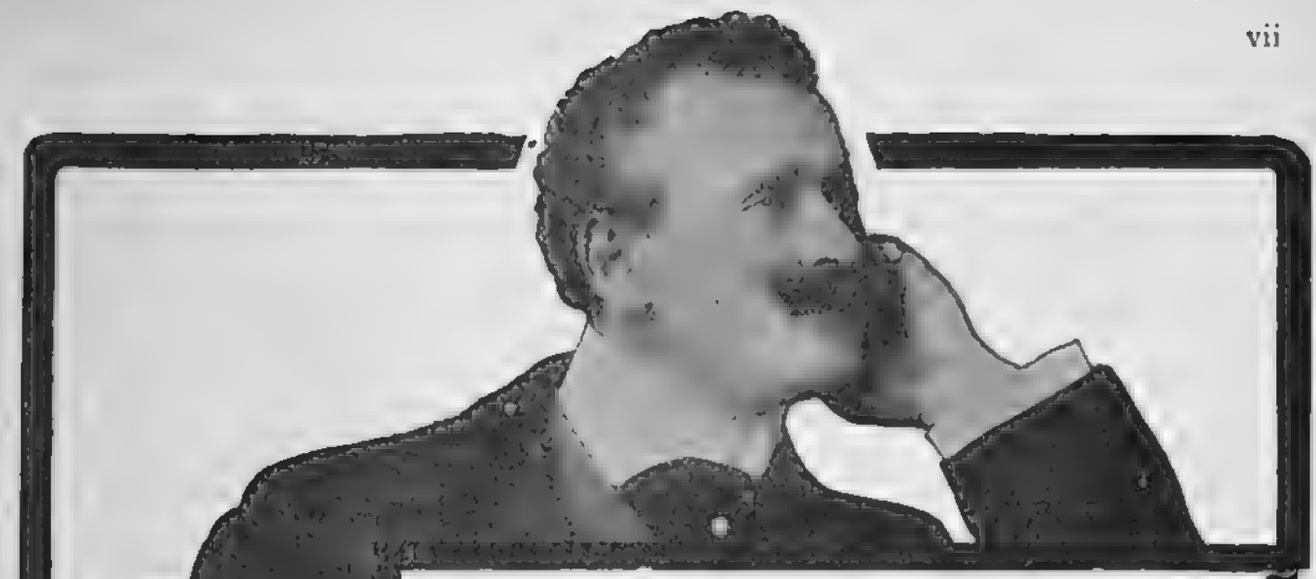
T. H. J. (RHYL) asks price of covers to bind 1905 issue of this magazine. He is puzzled by the answer to "Ardent Admirer" on muscular contraction, and he points out that when contracting one set of muscles one is really relaxing another set; therefore ought the grip of the bells to be continued throughout the exercises? He also asks a question with regard to "Strongfort's" challenge to lift his bar-bell of 312 lbs. with one arm.

*Answer*: You can obtain binding covers from "Our Readers' Library" for 1s. 6d. post free. In regard to the contraction query, ordinarily I recommend continuous contraction, but not in cases where the individual is weak, or where he finds that such continuous contraction constitutes too much of a strain. The object, of course, is to stimulate the local circulation and muscular nutrition. With regard to "Strongfort's" challenge, I understand that someone successfully lifted this bell.

### Black Phlegm and Weak Chest.

J. H. W. (ENFIELD) writes that during the past winter he has suffered from (1) spitting of black phlegm, (2) "scurvy" face, made worse by rough winds. He would like to know how to improve this condition, and also how to get colour into his face, as he is sick of people saying, "You do look white; don't you feel well?" etc. He has used the Grip Dumb-bells and Developer for some considerable time, and has obtained, according to his friends, "a good development," his muscles being "as hard as iron," and his health otherwise very good.

*Answer*: Yours is an unusual case, as, owing to your being able to report a good development, with muscles as hard as iron, such symptoms as you specify should not trouble you. The spitting of black phlegm indicates some congestion of the bronchial tubes, and it may be that your employment is amid dusty surroundings; and if you are in the habit of breathing through your mouth it would be quite reasonable to assume that this is the cause of the spitting of black phlegm. What you describe as a "scurvy" condition of your face may be due to your not taking enough fat-forming food. You might try a rasher of fairly fat bacon for breakfast every morning, and be careful not to eschew the fat of other meats.



# To Readers.

Some of you may be most severely handicapped by such ailments as indigestion, constipation, insomnia, loss of vigour and other nervous and functional disorders.

It is vitally important in such cases to first eradicate these ailments under such skilled direction as is obtainable under the Sandow Curative System, which can be carried out in your own room without interference with your everyday life, and at a cost which places it within the reach of every reader.

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### Prize Photo Competition.

T. K. (Guildford, Co. Down, Ireland) desires to know what weights and measurements are necessary to allow him to enter the "Prize Photo. Competition."

*Answer:* No particular weights and measurements are necessary. You must judge your chances of success by comparing your own figures with those particulars published of the winners from time to time in the magazine.

### Imperfect Breathing as a Handicap.

H. L. L. (Ashton-under-Lyne) writes: "I have practised your system of Physical Culture for the last two years, and would like to ask you the following:—

"(1) Although I have been able to greatly develop my muscles, I have obtained practically no increase in strength, a fact which appears very strange to me, my muscles being hard and in good condition.

"(2) Owing to an abnormal growth of the bone of the nose, which had, unknown to me, troubled me from birth or early childhood, my "wind" is in an extremely bad condition. I cannot run 100 yards without being pumped, and yet my lungs would appear to be in good condition, judging from the chest expansion given below. The doctor who performed the operation told me that the effect of this abnormal growth was not unlike asthma. Although I am considerably better since the operation, I am still troubled with inflammation of the mucus membrane, causing slight running of the nose, accumulation of phlegm in the throat, and liability to take cold in the head.

"I suppose it is the mucus running down the windpipe to the lungs, and so partially clogging up the cells and causing this short-windedness.

"I naturally feel very disappointed at being unable to overcome these weaknesses, and I shall be very glad indeed of any advice you can give me through the medium of your magazine. For further particulars, which may help you, I may say that I am just 22 years of age, in good health, and of a very nervous and shy disposition.

"The following are my measurements after 15 weeks' tuition under a former pupil of yours:—

| | | | |
|---|---|---|---|
| Weight ..... | 10 st. 4 lbs. | Forearm (R) | 12½ inches. |
| Neck | 16½ inches. | Forearm (L) | 11¾ " |
| Chest (cont.) | 38 " | Thigh (R) | 22 " |
| Chest (exp.) | 40 " | Thigh (L) | 22 " |
| Waist | 32½ " | Calf (R) | 14½ " |
| Upper arm (R) | 14½ " | Calf (L) | 14½ " |
| Upper arm (L) | 14 " | Chest expansion | 2½ " |

"Hoping you will be able to help me out of my difficulties, and wishing you every success in your work."

*Answer:* There is no doubt that the difficulty in the road to increasing your strength as well as your muscular development exists in connection with the nasal growth. I can quite understand that this growth interferes with your breathing, and as such it greatly handicaps your development of vital strength, or nervous force, which is largely affected by breathing. Thus, for instance, the improved breathing powers obtained by Physical Culture is one of the most important aids to the increase of strength. You are in the position of being unable to inspire as much air as is necessary to the greater development of your nervous strength. This is amply confirmed by your report that the condition is not unlike that where asthma exists, as also by the additional symptom of inflammation of the mucous membrane. You need to carefully and gently practise breathing exercises, and you would obtain good advice in this direction from a little book entitled, "The Art of Breathing," price 1s. 2d. post free from "Our Readers' Library." By following the advice contained in this work you could expect to improve your breathing powers and thus to remove the present inflammatory and congested condition of the parts affected. Your age and other factors are all in your favour, and I see no reason why you should not make great improvement by studying yourself and practising accordingly.

## The Human Frame like a Watch.

A physician says that the human frame may be compared to a watch, of which the heart is the main spring, the stomach the regulator, and what we put in it the key by which the machine is wound up. According to the quantity, quality, and proper digestion of what we eat and drink will be the pace of the pulse, and the action of the system in general. If the machine be disorganised, the same expedients are employed for its readjustment as are used by the watchmaker. It must be carefully cleaned and judiciously oiled.

A Practical Lecture Course.—A new lecture course on School and Personal Hygiene, has been begun in the School of Pedagogy, New York University, by Dr. Luther H. Gulick. The course will include study of the conditions under which individuals may work in order to secure the utmost efficiency and happiness and of the specific conditions under which children labour in their school life; and these topics: Muscular, neutral, volitional and emotional fatigue; physical health as related to desks, recesses, posture, lighting etc.; physical examination of school children.

# Our Readers' Library.

*Any of these Books can be obtained direct and by return post from Our Readers' Library Department, Sandow's Magazine, 131, Temple Chambers, E.C.*

## Physical Culture,

Founded on Del-Sartean principles, with Lessons on Exercising, Walking, Breathing, Resting, Sleeping, Dress, etc. Illustrated. By Carrica Le Favre. 1s., post free 1s. 2d.; or cloth, 3s.

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By Arthur Lovell. Revised and enlarged edition; 145 pages, with index. Price 2s. net, post free, 2s. 3d. Contents: Preface—Introduction—Water, Light and Diet—Breathing—Physical Culture—Transference of Nerve Energy and Suggestion—Mental Vigour—Power of Will—Imagination—Concentration—Manners—Vril and Individual Influence—Symbology of the Developed Man.

## The Hindu-Yogi Science of Breath.

A Complete Manual of the Oriental Philosophy of Physical, Mental, Psychic, and Spiritual Development by the Intelligent Control of the Breath By Yogi Ramacharaka. Price, 2s. 9d., post free.

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The Cultivation of Personal Beauty, based on Hygiene and Health-Culture by twenty Physicians and Specialists, with 20 illustrations. Edited by Albert Turner. 4s. 9d., post free.

## The New Methods in Health and Disease.

A Guide to the Home Treatment of the Sick. By W. E. Forest, B.S., M.D., Fellow of N.Y. Academy of Medicine, Member of Medical Society of County of N.Y., and N.Y. Medical Union. Thirteenth Edition. Revised, enlarged, and illustrated by Albert Turner. 4s. 9d., post free.

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## —— AMUSEMENTS. ——

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ADELPHI—At 8.15, "Measure for Measure." Mat. Wed. and Sat. at 2.15.
APOLLO—At 8-0, "Mr. Popple." Mat. Sat. at 2-15.
ALDWYCH—At 8-0, "The Beauty of Bath." Mat. Sat. at 2.
COMEDY.—At 8.15, "A Pair of Spectacles." Mat. Sat. at 3.
COURT— At 8-30, "The Electra of Euripides." Mat. Wed. at 2-30.
CRITERION—At 8.30, "The Little Stranger." Mat. Wed. and Sat. at 3-0.
WYNDHAM'S—At 8-30, "The Candidate."
WALDORF—At 8.30, "The Heir at Law." Mat. Wed. and Sat. at 2-30.
DUKE OF YORKS—At 8.30, "All of a Sudden Peggy." Mat. Thur. and Sat. at 2-30.
DALY'S—At 8.30, "The Little Michus." Mat. Sat. at 2-30.
GAIETY—At 8, "The Spring Chicken." Mat. Sat. at 2.
GARRICK—At 8-15, "Brother Officers." Mat. Wed. and Sat. at 2-15.
HIS MAJESTY'S—At 8, "Nero" Mat. Wed. and Sat. at 2-15.
HAYMARKET—At 8-30, "The Man from Blankley's." Mat. Wed. and Sat. at 2-30.
IMPERIAL—At 8-30, "Brigadier Gerard." Mat. Wed. and Sat. at 2.30.
NEW—At 8.15, "The Scarlet Pimpernel." Mat. Wed. and Sat. at 2.30.
PRINCE OF WALES—At 8-0, "The Little Cherub." Mat. Wed. and Sat. at 2.15.

### VARIETY THEATRES.

ALHAMBRA—At 7-45.
COLISEUM—At 3, 6, and 9
EMPIRE—At 8-15. Mat. Sat. at 2-15.
LONDON HIPPODROME—At 2 and 8 p.m.
OXFORD—At 7.30. Sat. Mat. at 2-20.
PALACE—At 7-45. Mat. Sat. at 2-0.
LONDON PAVILION—At 7-30. Sat. Mat. at 2-15.
TIVOLI—At 7-35. Sat. Mat. at 2-15.
LYCEUM—At 6-30 & 9. Mat. Mon. and Sat. at 2.30.

### ENTERTAINMENTS.

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